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THE UNIVERSITY OF ALBERTA

Self-Monitoring: Issues Concerning Construct Validation and Sensitivity to Social Information

(C)

BY

John C. Pullyblank

A THESIS

SUBMITTED TO THE FACULTY OF GRADUATE STUDIES AND RESEARCH

IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE

OF DOCTOR OF PHILOSOPHY

DEPARTMENT OF PSYCHOLOGY

EDMONTON, ALBERTA

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The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies and Research for acceptance, a thesis entitled: "Self-Monitoring: Issues Concerning Construct Validation and Sensitivity to Social Information", submitted by John C. Pullyblank in partial fulfillment of the requirements for the degree of Doctor of Philosophy.

Brendan P. Rule
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Curt Hoffman

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Peter Lobdell

Mark Snyder

Date: November 26, 1986

FOR MY SARA

(Who always knows)

and, of course,

FOR MOM

(For years of unconditional love and support)

Abstract

Two studies were conducted to investigate the nature of individual differences in self-monitoring. High self-monitoring individuals modify their behaviour to suit the situation and the expectations of others in the situation. Low self-monitoring individuals behave in accordance with their own attitudes and beliefs. In Study 1, 1031 subjects were given the Self-Monitoring Scale (SMS; Snyder, 1974), the Revised Self-Monitoring Scale (RSMS; Gangestad & Snyder, 1985a), the Lennox and Wolfe Self-Monitoring Scale (LWSMS; Lennox & Wolfe, 1984), and other personality measures. Analysis of responses to these scales showed that the SMS (and RSMS) was a heterogeneous measure with moderate internal consistency and three weak factors that correlate independently with other measures. The LWSMS was shown to be a highly homogeneous measure with two strong factors, few correlations with other measures, and high internal consistency. However, consideration of the possible "true" nature of the self-monitoring construct led to the conclusion that the RSMS was a more appropriate measure of the construct but that the LWSMS should be administered concurrently to facilitate clarification of the self-monitoring construct. In Study 2, an information processing paradigm (dichotic listening) was employed to address possible differences in low and high self-monitoring individuals' sensitivity to social information. Subjects

participated in a 2 (high versus low self-monitoring) X 2 (expectation of meeting the target versus no such expectation) X 3 (positive, neutral, or negative valence of nonshadowed items) factorial design. Both high and low self-monitoring individuals shadowed (repeated) neutral words while negative, positive, and neutral words were presented over a nonshadowed ear. In addition, subjects performed a periodic reaction time task that served as a measure of the additional resources that had to be allocated to ignore the nonshadowed material. The findings showed that high, but not low, self-monitoring individuals exhibited an attentional response to potentially relevant social information presented to a nonshadowed ear. Therefore, it appears that high self-monitoring individuals may have a higher sensitivity to relevant social information, and thus may have greater access to information in a situation relevant to self-presentational choices.

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The ability of popular actors to convey a range of emotions and personalities is often admired. However, it is apparent to many that all people are faced with day-to-day, even moment-to-moment, decisions about how to present themselves to others. In fact, an examination of the social-psychological literature reveals the fundamental importance of impression management for understanding social behaviour (Tetlock & Manstead, 1985). It has been stated, "That individuals can and do exercise control over their self-presentation is a basic tenet of most, if not all, theories of the self in social interaction" (Snyder, 1979, p. 87). However, it is apparent that there are differences in people's ability and motivation to observe and control their expressive behaviour and self-presentation. Snyder (1974, 1979) has addressed these individual differences with the introduction of the construct of self-monitoring. Individuals scoring high in self-monitoring are more sensitive to situational cues as to how they should act and are better able to subsequently modify their presentation accordingly. On the other hand, individuals scoring low in self-monitoring act in accordance with internal cues (e.g., their attitudes, morals), regardless of the situation.

Since the introduction of the self-monitoring construct, a number of hypotheses (e.g., concerning attitude-behaviour relationships, selective presentation, self-disclosure effects) have been generated on the basis of

the initial propositions. In turn, research employing the Self-Monitoring Scale (Snyder, 1974) has revealed several relationships between it and a wide variety of behavioural criteria (Snyder & Gangestad, 1986; see also Snyder, 1974, 1979, and Shaw & Costanzo, 1982 for relevant reviews). Recently, Furnham and Capon (1983) have summarized the self-monitoring literature in terms of a distinction between two major abilities of the high self-monitoring (HSM) individual. The first ability is that of monitoring the situation, or what they call "self-monitoring sensitivity". This refers to the HSM individual's greater sensitivity to aspects of the situation (including the expressions and behaviour of others) that provide clues to appropriate self-presentation. The second ability is that of modifying behaviour, or "behavioural flexibility". This refers to the characteristic most frequently associated with HSM individuals - the ability to control their behaviour to suit the situation.

However, regardless of the apparent "success" of the self-monitoring construct, the Self-Monitoring Scale itself has been the focus of a psychometric controversy (see Snyder & Gangestad, 1986, for a relevant review of the issues). This controversy has centered largely on the presence of a 3-factor structure within the Self-Monitoring Scale (Briggs, Cheek, & Buss, 1980). Demonstrations that these factors (subscales) not only exist but correlate independently with

other personality measures (e.g., Self-Esteem, Manifest Anxiety) have prompted some investigators to question the validity of the Self-Monitoring Scale as a measure of any identifiably coherent construct (e.g., Lennox & Wolfe, 1984). More recently, the criticisms of the Self-Monitoring Scale have resulted in the introduction of alternative scales for measurement of the construct. Lennox and Wolfe (1984) have introduced the Lennox and Wolfe Self-Monitoring Scale. In addition, Gangestad and Snyder (1985b) have provided a shortened version of the original scale, the Revised Self-Monitoring Scale.

Given the controversy surrounding the properties of the Self-Monitoring Scale, and the introduction of new measures, it is not possible to conduct an investigation of self-monitoring without a consideration of measurement issues. Therefore, Study 1 was designed to address some of these issues. Specifically, Study 1 primarily focused on two topics: (a) the factor structure of the self-monitoring measures; and (b) the relationship among total and subscale scores derived from these measures and other measures of personality. The inclusion of the Revised Self-Monitoring Scale and the Lennox and Wolfe scales was designed to provide a comparison of different methods of assessing differences in self-monitoring. There were two interrelated goals of Study 1. First, it was hoped that the findings would clarify the most effective means of assessing

self-monitoring. Second, given the evolving conceptions of self-monitoring (e.g., Snyder & Simpson, 1986), it was hoped the study would clarify the nature of the self-monitoring construct.

In contrast to the psychometric issues addressed by Study 1, Study 2 was concerned with the processes of self-monitoring. To date, research on self-monitoring has primarily examined the consequences of self-monitoring differences for social interaction. Thus, the tendency of HSM individuals to adapt their behaviour to suit the situation is well documented (e.g., Snyder, 1979). More recent investigations have examined the consequences of self-monitoring differences for the selection of friends (e.g., Snyder, Gangestad, & Simpson, 1983; Snyder & Smith, 1986), for dating (e.g., Snyder & Simpson, 1984), for romantic relationships (e.g., Snyder & Simpson, 1986), and for sexual relations (Snyder, Simpson, & Gangestad, 1986). However, while there has been a great deal of research demonstrating self-monitoring differences in social behaviour, less research has examined the actual component processes that contribute to these differences.

Study 2 was designed to examine one such potential component process of self-monitoring. During the development of self-monitoring theory, Snyder (1979) summarized findings indicating that the prospect of social interaction may lead the HSM individual to engage perceptual

and cognitive processes that direct the search for information about another individual. As a consequence of these processes, the HSM individual may possess greater amounts of relevant information about a target person than does the low self-monitoring (LSM) individual. Thus, the HSM individual may possess more information on which to base impression management decisions.

These findings can be seen as indicative of a higher basic sensitivity to relevant social information on the part of the HSM individual. Seen in this way, the higher sensitivity of the HSM individual to social information can be tested directly within an information processing framework. Therefore, Study 2 employed the dichotic listening paradigm (c.f., Bargh, 1982) to directly address self-monitoring differences in sensitivity to social information.

Thus, the two studies to be reported addressed three general issues: (a) the measurement of self-monitoring; (b) the nature of the self-monitoring construct; and (c) self-monitoring differences in the processing of social information. The general goal was to contribute to a clarification of both the actual nature of self-monitoring differences, as well as some of the perceptual/cognitive components that produce these differences.

STUDY 1

The original Self-Monitoring Scale is a 25-item measure provided by Snyder (1974). In responding to this scale, each item is answered true or false, with a low total score indicating a LSM individual and a high total score indicating a HSM individual. Until recently, the total score on this scale represented the only measure of the self-monitoring construct.

Recently, however, Briggs, Cheek, and Buss (1980), factor analyzed their subjects' scores on the Self-Monitoring Scale. These authors found that responses to the items grouped into three factors that they labelled "acting", "extraversion", and "other-directedness". Their suggestion was that the presence of these three factors clarified cases in self-monitoring research where self-monitoring hypotheses have not been supported. Subsequently, a number of other authors have included subscores from the three factors identified by Briggs et al. in their examinations of the relationships between self-monitoring and other variables (e.g., Caldwell & O'Reilly, 1982; Furnham & Capon, 1983; Mill, 1984; Riggio & Friedman, 1982; Riggio & Friedman, 1983; Siegman & Reynolds, 1983; Sypher & Sypher, 1983).

In addition to the issue of the Self-Monitoring Scale's factor structure, some authors have questioned the discriminant validity of the original scale. For example,

some investigators have found positive correlations between self-monitoring and extraversion (Briggs, et al., 1980; Lennox & Wolfe, 1984). As well, Riggio and Friedman (1982) found further correlations of the Self-Monitoring Scale with the Taylor Manifest Anxiety Scale, Coopersmith's Self-Esteem Inventory, and the Machiavellianism scale.

Lennox and Wolfe (1984) considered these apparent difficulties with the original Self-Monitoring Scale sufficient to warrant a revision of the scale. After the generation of new items and repeated factor analysis, the authors developed a 13-item scale. This scale was purported to measure only sensitivity to the expressive behaviour of others and the ability to modify self-presentation. Therefore, Lennox and Wolfe stated that this new scale identifies as HSM individuals only people who are not socially anxious. An additional "Concern for Appropriateness Scale" was constructed from remaining items that appeared to measure concern or anxiety over self-presentation. Nonetheless, the validity of both these scales remains as yet largely untested.

Recently, Gangestad and Snyder (1985b) and Snyder and Gangestad (1986) have provided data relevant to the validity of the original Self-Monitoring Scale. In their papers, they emphasize that self-monitoring is a <u>class</u> variable; individuals scoring high and low on self-monitoring "differ not in degree, but in <u>kind</u>". The authors have argued that

if the variance in responding to the Self-Monitoring Scale is attributable to a class variable, then this class variable should appear as a general factor on which most of the items load positively. In turn, this general factor should be reflected as the first unrotated factor in a factor analysis and account for a relatively large amount of the variance across items. From the results of their analysis, it appeared that the self-monitoring variable was indeed expressed as the first unrotated factor.

Furthermore, Gangestad and Snyder have addressed the issue of the rotated factor structure that Briggs et al. (1980) and others had demonstrated. They pointed out that the factor structure that had been demonstrated in these other studies was in accordance with principles of simple structure. However, it was further indicated that there is no justification for believing that a rotated factor structure identifies the "real" underlying sources of variation. When Gangestad and Snyder (1985b) reproduced the Briggs et al. factors with an oblique rotation of their data, it was found that the subscales correlated with the first unrotated factor. These authors speculated that: "The three rotated factors correspond to three dimensional variables that discriminate between the two classes and yet are, in part, independent of the class variable" (p. 37). More recently, Snyder and Gangestad (1986) have repeated that the three factors may account for variance unrelated to

the self-monitoring construct as it is presently understood. They have encouraged researchers to examine relations among their criterion variables and the subscales to assist in the delineation of the self-monitoring construct.

Possibly more relevant to the validation of the original Self-Monitoring Scale, Gangestad and Snyder have introduced a revision of the original scale. This scale consists of the 18 items from the original Self-Monitoring Scale that were shown to load above .15 on the first unrotated factor. Analysis of the scale showed an internal consistency of .70 (increased from .66), that the first unrotated factor accounted for 62% of the common variance (increased from 51% in the case of the original scale), that total scores were uncorrelated with the second, minor, unrotated factor, and that the correlation between the new measure and the original Self-Monitoring scale was .93. The authors emphasized that high scores on the new scale refer to the probability of belonging to the HSM class rather than greater "amounts" of self-monitoring.

Construct validation of the Self-Monitoring Scale (or any other scale) is crucial to interpreting the meaning of differences between groups scoring high or low on the scale. The controversy surrounding the construct validity of the original Self-Monitoring Scale has focussed on three major issues: (a) interpreting the factor structure of the Self-Monitoring Scale; (b) interpreting correlations between

the total and subscale scores of the Self-Monitoring Scale and other personality measures (discriminant validity); and (c) the introduction of revised scales for the measurement of self-monitoring. Therefore, Study 1 was designed to examine these validation issues. Specifically, responses were collected to the three Self-Monitoring Scales as well as a selection of other personality measures that had been previously shown to correlate with the total and/or subscale scores of the original Self-Monitoring Scale. Analysis of these responses focussed on the factor structure of the three scales recommended for measuring self-monitoring, as well as the relationships between these scales (and subscales) and other personality measures.

The intent with Study 1 was not solely to verify the three-factor structure of the original Self-Monitoring scale and its relationship with other measures. Rather, the study was also intended as an initial investigation of the factor structures of the other two Self-Monitoring Scales, and their relationships with both the original scale and the other personality measures. Thus, there were two desired outcomes of this study: (a) a clarification of the most effective means of assessing self-monitoring; and (b) a clarification of the nature of the self-monitoring construct itself.

Method

Subjects

Subjects were 1031 undergraduates who participated as an option in partial fulfillment of an introductory psychology course requirement. Of these subjects, 400 were male, and 624 were female (7 did not indicate their gender on their response sheets). For each analysis, subjects with missing data were excluded. The specific sample size for each analysis is indicated under the relevant table.

Materials

Subjects were given booklets that contained the following eight personality scales (see Appendix A): (1) Snyder's Self-Monitoring Scale (SMS; Snyder, 1974); (2) Taylor's Manifest Anxiety Scale (Taylor, 1953), a test of trait anxiety; (3) The Eysenck Personality Inventory (EPI, 1963), containing scales measuring extraversion, neuroticism, and a Lie Scale; (4) Rosenberg's Self-Esteem Scale (Rosenberg, 1979); (5) The Lennox and Wolfe Revised Self-Monitoring Scale (LWSMS; Lennox & Wolfe, 1984); (6) The Lennox and Wolfe Concern for Appropriateness Scale (LWCAS; Lennox & Wolfe, 1984); (7) The Machiavellianism Scale (Christie & Geis, 1970), a scale that taps the degree to which an individual feels other people are manipulable in interpersonal situations; and (8) the Self-Consciousness Scale (Fenigstein, Scheier, & Buss, 1975), a scale that contains subscales measuring the disposition to attend to

private aspects of the self (private self-consciousness), external or public aspects of the self (public self-consciousness), and social anxiety. For each scale, the response format from the original scale (e.g., true-false, 4-point scale, etc.) was maintained with the labels suggested by the authors (e.g., "agree strongly"). These scales were presented in an order that minimized shifts in the response scale (e.g., all true-false scales were grouped together). In addition to the question booklet, each subject was given two computer-scored sheets on which to place their responses.

Procedure

Subjects were tested in groups ranging from 9 to 37 individuals per session. When the subjects arrived they were seated at tables on which booklets had been placed. Subjects were told that: "We are interested in people's attitudes toward themselves and others." The "attitude inventory" was explained to subjects as a means of determining which questions are useful for distinguishing people with different attitudes. Finally, subjects were told that their answers were confidential, that they should try to answer every question (although they could skip any question they found disturbing), and that they should provide their first impressions. Subjects that did not wish to complete the inventory were free to leave (with credit). The mean time to complete the inventory was 45 minutes with

individual times ranging from 20 to 75 minutes. At the conclusion of the session, subjects turned in their response sheets and were given a written explanation of the research. At this point, the experimenter answered any remaining questions.

Results

Factor Analyses of Self-Monitoring Items

Factor analysis of Snyder's scales. Responses to both Snyder's original Self-Monitoring Scale and recently revised Self-Monitoring Scale (RSMS; Gangestad & Snyder, 1985b) were subjected to factor analyses. The revised scale consists of a subset of 18 items from the original 25-item scale. However, subjects were given only the full 25-item scale. Therefore, analysis of the RSMS was based on subjects' responses to the subset of 18 items.

Responses were factor analyzed using a principle-axes solution and both varimax and equamax orthogonal rotations. As well, either principle-axes or maximum likelihood solutions were combined with an oblique oblimin rotation. All factor analyses yielded highly similar results. Therefore, loadings from the more commonly used varimax rotation are reported. For both scales, three factors were retained for final rotation based on the following considerations: (a) eigenvalues over one; (b) application of Cattell's (1966) scree test; (c) discontinuities in the eigenvalues; and (d) interpretability of the final factors.

In the case of the Snyder scales, the first three criteria indicated that either a 4- or 3-factor solution would be appropriate. However, consideration of the interpretability of the final factors (including replication of previous analyses) led to the selection of 3-factor solutions. The item inclusion criterion was a factor loading of a least .30 (Briggs et al., 1980). The resulting 3-factor solutions included 16 of the 25 items on the original scale (SMS), and 15 of the 18 items on the revised scale (RSMS).

For all factor solutions reported here, two variance calculations were performed on the unrotated factors extracted. First, the percentage of total variance (percentage of all variance in the original data matrix) explained by each factor was calculated. This measures a factor's comprehensiveness and strength (Rummel, 1970). Second, the percentage of common variance explained by each factor was also calculated. This shows how the variance explained by all the factors is divided up among each of the factors (Rummel, 1970).

For the original SMS, the percentage of total (and common) variance explained by each of the three factors was: (a) 9.5% (51.7%); (b) 5.6% (30.6%); and (c) 3.2% (17.2%). For the total solution, the total variance explained was 18.2% (99.5% common variance, with rounding error). In the case of the RSMS, the percentage of total and common variance explained by each of the three factors was:

(a) 13.1% (58.9%); (b) 5.6% (24.9%); and (c) 3.6% (16.2%). For the total solution, the total variance explained was 22.3% (100% common variance). Therefore, the factor analysis of the RSMS items shows an increase (2.1%) in the total variance explained by responses to the items.

Table 1 shows the first rotated factor resulting from the analysis of both of the Self-Monitoring Scales. Two labels have been suggested for this factor: "Acting" (Briggs et al., 1980), and "Expressive Self-Control" (Gangestad & Snyder, 1985b). The labels suggested by Briggs et al. for each of the factors will be used in discussing the factors. The items loading on the original SMS include the five items indicated by Briggs et al., as well as an additional three items (6, 12, and 22) specific to this solution. It can be seen that ~~six~~ of the eight items loading on this factor mention acting, entertaining, or spontaneous public speaking (e.g., "I would probably make a good actor"). Therefore, it appears that the emphasis of these items is more on theatrical acting rather than self-presentation in everyday life (Briggs et al., 1980; Lennox & Wolfe, 1984). The interpretation of this factor for the RSMS is not changed with the exclusion of two of the items.

Table 1

Factor I: "Acting" or "Expressive Self-Control"

Item Number	Item	Loadings SMS	Loadings RSMS
(8)	I would probably make a good actor.	.58	.58
(5)	I can make impromptu speeches even on topics about which I have almost no information.	.56	.54
(18)	I have considered being an entertainer.	.52	.54
(20)	I have never been good at games like charades or improvisational acting.[R]	.43	.39
(6)	I guess I put on a show to impress or entertain people.	.41	.33
(12)	In a group of people I am rarely the center of attention.[R]	.38	
(24)	I can look anyone in the eye and tell a lie with a straight face (if for a right end).	.37	.37
(22)	At a party I let others keep the jokes and stories going.[R]	.37	

Note: (1) In this and following tables, "SMS" refers to the original Self-Monitoring Scale (Snyder, 1974) and "RSMS" refers to the Revised scale (Gangestad & Snyder, 1985).
(2) Items followed by "[R]" are reversed scored.
(3) Factor analyses were based on 1007 (SMS) and 1009 (RSMS) cases.

Table 2 shows the second factor resulting from the factor analyses of these two scales, the "Extraversion" (or "Social Stage Presence") factor. The items loading on the SMS and RSMS constitute 4 and 5 of the 6 items reported by Briggs et al., respectively. As in the Briggs et al. analysis, all the items loading on this factor are written in the reverse direction, that is they are scored in the direction of high self-monitoring when they are answered false. When the items are recoded, the items seem to involve extraversion; being the center of attention, making people like you, telling jokes and stories. Gangestad and Snyder's more specific label, "Social Stage Presence", accurately describes the three items that also load on the "Acting" factor (items 12, 20 and 22). The interpretation of this factor does not differ between the two Self-Monitoring Scales.

Table 2

Factor II: "Extraversion" or "Social Stage Presence"

Item Number	Item	Loadings SMS	Loadings RSMS
(23)	I feel a bit awkward in company and do not show up quite so well as I should. [R]	.59	.60
(22)	At a party I let others keep the jokes and stories going.[R]	.45	.51
(12)	In a group of people I am rarely the center of attention.[R]	.44	.51
(14)	I am not particularly good at making other people like me. [R]	.43	.44
(20)	I have never been good at games like charades or improvisational acting.[R]		.32

Table 3 shows the third factor: the "Other-Directedness" (or "Other-Directed Self-Presentation") factor. The items loading on the SMS include 6 of the 11 items reported by Briggs et al., as well as 1 additional item (item 21). Item 6 also loads on the "Acting" factor. This is the most diffuse factor of the three. However, the items appear to deal primarily with modifying self-presentation to conform to the desires of others in the

situation. The interpretation of this factor does not differ between the two Self-Monitoring Scales.

Table 3

Factor III: "Other-Directedness or Other-Directed Self-Presentation"

Item Number	Item	Loadings SMS	Loadings RSMS
(19)	In order to get along and be liked, I tend to be what people expect me to be rather than anything else.	.42	
(17)	I would not change my opinions (or the way I do things) in order to please someone else or win their favor.[R]	.39	.35
(3)	At parties and social gatherings, I do not attempt to do or say things that others will like.[R]	.36	.33
(6)	I guess I put on a show to impress or entertain people.	.32	.35
(15)	Even if I am not enjoying myself, I pretend to be having a good time.	.31	
(13)	In different situations and with different people, I often act like very different persons.	.31	.46
(21)	I have trouble changing my behavior to suit different people and different situations.[R]	.30	.42
(16)	I'm not always the person I appear to be.		.35

The unrotated factor structure of the SMS and RSMS. Based on the presence of an interpretable, rotated 3-factor structure in the SMS, several authors have criticized the validity of the scale, and the meaningfulness of its total score (e.g., Briggs et al., 1980). However, more recent statements by Gangestad and Snyder (1985a, 1985b) and by Snyder and Gangestad (1986) have emphasized the importance of examining the first unrotated factor resulting from principle-axes factoring of the Self-Monitoring Scales. The intent of such an examination is to look for the presence of a general factor that accounts for differences in self-monitoring. Gangestad and Snyder (1985b) state:

> There is no indisputable justification for believing that a rotated factor structure identifies the "real" underlying sources of variation. (p. 332)

In fact, Rummel (1970) does indicate that "the first unrotated factor delineates the most general pattern of relationships in the data" (p. 142).

Gangestad and Snyder performed a principle-axes factor analysis of a sample of responses to the SMS and extracted three unrotated factors. They found that over half of the common variance (51%) was attributable to the first factor. Further, they found that 24 of the 25 items had positive loadings on the first unrotated factor. Of these 24 items, 18 had loadings greater than .15 (an arbitrary criterion). In revising the SMS, Gangestad and Snyder excluded the 7

items that did not load above .15 on this first factor (resulting in the final 18 item scale). Based on their analysis of this new scale (the RSMS), they found that the first unrotated factor now explained more of the common variance (62%). In total, these findings were used as support for the notion that the SMS (and RSMS) taps a general class variable that discriminates between HSM and LSM individuals.

To assess the meaningfulness of the first unrotated factor, the above analyses were replicated with the present data. Responses to the SMS (and those derived for the RSMS) were subjected to a principle-axes factor analysis and three factors were extracted but not rotated. Findings showed that the percentage of common variance attributable to the first unrotated factor of the SMS and RSMS was very similar to the figures reported by Gangestad and Snyder. Similar to above, the first unrotated factor of the SMS accounted for 51.7% of the common variance, while the first unrotated factor of the RSMS accounted for 58.9%. Examination of the loadings on this first factor also yielded findings similar to those of Gangestad and Snyder. Of the 25 items, 23 had positive loadings on the first factor. Of these 23 items, 15 exceeded Gangestad and Snyder's loading criterion of .15. These findings supported those reported by Gangestad and Snyder in demonstrating the possible presence of a general factor accounting for over half of the common variance.

However, the issue of the total (as opposed to common) variance explained by a factor is of potential importance in assessing the existence of a general factor. Common variance (that reported by Gangestad and Snyder) indicates "how much of the variance explained by all the factors is involved in each factor" (Rummel, 1970, p.144). On the other hand, the calculation of percentage of total variance explained by a factor indicates how much of the total variation in responding (present in the complete data matrix) can be reproduced by that factor. In other words, percentage of total variance measures an unrotated factor's "comprehensiveness and strength" (Rummel, 1970, p. 143). A given factor solution may explain very little of the variability operating in the data (total variance). However, within this solution, the first factor (extracted because it accounts for the most variance) may account for most of the variance. In an extreme case, it is possible to force the extraction of only one factor that will account for very little of the total variance but account for 100% of the common variance because there are no other factors.

Total variance was calculated for the unrotated 3-factor solutions and reported above. It was found that the first unrotated factor explained only 9.5% of the total variance in responses to the SMS. This figure increased to 13.1% of total variance for the RSMS. To assess the comparability of these figures to the solutions reported by

Gangestad and Snyder, total variance was calculated from the first factor loadings reported in their papers. Using first factor loadings reported for the SMS in Gangestad and Snyder (1985b), calculations indicated that 9.5% of the total variance was explained by this factor; a figure identical to the one reported for the present data. Using first factor loadings reported for the RSMS in Snyder and Gangestad (1986), calculations indicated that 13% of the total variance was explained by this factor; a figure very similar to the one reported for the present data. Therefore, it appears that the first unrotated factor accounts for very little of the variability in responding to the Self-Monitoring Scales.

The interpretation of the first unrotated factor was addressed with two further analyses. First, responses to the SMS were subjected to a principle-axes factor analysis that forced a 1-factor solution. As was expected, calculations showed that this single factor explained only 9.2% of the total variance while accounting for 100% of the common variance as the sole factor extracted. Second, the loadings on the second and third unrotated factors from the SMS were examined. For the second factor, it was found that 18 of the 25 loadings remained positive, while 11 of these 18 loadings exceeded the Gangestad and Snyder criterion of a loading over .15. For the third factor, it was found that 15 of the 25 loadings were still positive while 10 of these

15 items still exceeded the .15 criterion. Therefore, it is apparent that, using these criteria, the second and third unrotated factors extracted appeared to have "meaningful" loadings.

The clearest point resulting from these analyses is that it is very difficult to interpret the relevance of the unrotated factor structure. In contrast, rotation to simple structure maximizes the loading of items on single factors and increases the potential interpretability of the factors. Rummel (1970) states that:

> The reason for rotation is that the factoring technique may be adequate to define the minimum dimensionality of the data and a basis of the space, but the original factors are often substantively uninteresting. (p. 372)

Given the ambiguity in assessing the unrotated factor structure, any use of this structure to support the claim of a general factor is hazardous. Therefore, the issue of a general factor accounting for differences in self-monitoring remains unresolved from these data.

Factor analyses of the Lennox and Wolfe scales. Responses to Lennox and Wolfe's 13-item Self-Monitoring, and 20-item Concern for Appropriateness Scales were subjected to factor analyses employing a principle-axes solution and varimax, equamax, and oblimin rotations. In the case of the Self-Monitoring Scale (LWSMS), all factor analyses yielded identical results. Therefore, loadings from the more commonly used varimax rotation are reported. In the case of

the Concern for Appropriateness Scale (CAS), the oblimin oblique rotation is reported because it was found to (a) minimize double loadings and (b) more closely replicate the solution reported by Lennox and Wolfe (1984). The same criteria used in the analyses of the SMS and RSMS were applied here. Therefore, for both scales, two factors were retained for final rotation based on the following considerations: (a) eigenvalues all well over one; (b) application of Cattell's (1966) scree test; (c) discontinuities in the eigenvalues; and (d) interpretability of the final factors. In the case of the LWSMS, all four criteria indicated the appropriateness of a 2-factor solution. For the LWCAS, the first three criteria indicated the appropriateness of either a 3- or 2-factor solution. However, with the consideration of interpretability (including replication of Lennox and Wolfe's original findings), the 2-factor solution of the LWCAS was selected as most appropriate. The item inclusion criterion was a factor loading of a least .30, although the smallest loading was .42.

As was the case with the analyses of the SMS and RSMS, percentage of total and common variance was calculated for each of the unrotated factors extracted from responses to the LWSMS and LWCAS. In the case of the LWSMS the total and common variance explained by the first and second factor was: (a) 27.4% (67.8%); and (b) 12.9% (32.0%). For the

total solution, 40.3% of the total, and 99.8% (with rounding error) of the common variance was accounted for. Total and common variance explained by the unrotated factors extracted from the LWCAS was: (a) 27.5% (74.1%); and (b) 9.6% (26.0%), with 37.1% total, and 100.1% common variance explained by the total solution. Therefore, solutions resulting from factoring of the LWSMS (and LWCAS) produced stronger factors that, in total, explained up to twice as much of the total variance in responding than did solutions from the factoring of the SMS and RSMS.

Table 4 shows the first factor resulting from the analysis of the LWSMS: "Ability to Modify Self-Presentation". This factor duplicates the solution reported by Lennox and Wolfe (1984). It can be seen that items loading on this factor involve rather subtle rewordings that emphasize adjusting, changing, regulating or altering behaviour to suit the situation. Therefore, although there is not the emphasis on theatrical acting found in the Acting factor of the SMS and RSMS, the questions appear very repetitive.

Table 4

Lennox and Wolfe Self-Monitoring Factor I: "Ability to Modify Self-Presentation"

Item Number	Item	Loadings
(10)	I have found that I can adjust my behavior to meet the requirements of any situation I find myself in.	.72
(9)	I have trouble changing by behavior to suit different people and different situations.[R]	.71
(13)	Once I know what the situation calls for, its easy for me to regulate my actions accordingly.	.65
(7)	When I feel that the image I am portraying isn't working, I can readily change it to something that does.	.65
(1)	In social situations, I have the ability to alter my behavior if I feel that something else is called for.	.64
(3)	I have the ability to control the way I come across to people, depending on the impression I wish to give them.	.58
(12)	Even when it might be to my advantage, I have difficulty putting up a good front.[R]	.52

Note: N = 1012 for the entire factor analysis.

Table 5 shows the second factor resulting from the analysis of the LWSMS: "Sensitivity to the Expressive Behaviour of Others". Again, this factor duplicates the solution reported by Lennox and Wolfe. The items on this factor emphasize reading information in others' eyes, facial expressions or manner, and understanding others' emotions or opinions. As was the case with the self-presentation factor, some of the items on this factor involve quite subtle rewordings (for example, items 2 and 8).

Table 5

Lennox and Wolfe Self-Monitoring Factor II: "Sensitivity to the Expressive Behaviour of Others"

Item Number	Item	Loadings
(2)	I am often able to read people's true emotions correctly through their eyes.	.66
(5)	My powers of intuition are quite good when it comes to understanding others' emotions and motives.	.64
(8)	I can usually tell when I've said something inappropriate by reading it in the listener's eyes.	.64
(4)	In conversations, I am sensitive to even the slightest change in the facial expression of the person I'm conversing with.	.59
(6)	I can usually tell when others consider a joke to be in bad taste, even though they may laugh convincingly.	.55
(11)	If someone is lying to me, I usually know it at once from that person's manner of expression.	.47

Table 6 shows the first factor resulting from the analysis of the Concern for Appropriateness Scale: "Attention to Social Comparison Information". This factor

duplicates the solution reported by Lennox and Wolfe except that item 9 fails to load (on this or the other factor). Given that this item does not load on either factor reported here, and was a weak item in the original Lennox and Wolfe paper, its exclusion from the scale is warranted. The emphasis of remaining items loading on this factor is on looking to others for cues on how to act or dress in a way that pleases them. However, these items are the most repetitive of any of the Lennox and Wolfe factors, with several of the items (for example, 6 and 17) worded almost identically.

Table 6

Lennox and Wolfe CAS Factor I: "Attention to Social Comparison Information"

Item Number	Item	Loadings
(6)	When I am uncertain how to act in a social situation, I look to the behavior of others for cues.	.68
(17)	If I am the least bit uncertain as to how to act in a social situation, I look to the behavior of others for cues.	.66
(14)	It's important to me to fit in to the group I'm with.	.66
(5)	At parties I usually try to behave in a manner	.65

	that makes me fit in.	
(18)	I usually keep up with clothing style changes by watching what others wear	.61
(15)	My behavior often depends on how I feel others wish me to behave.	.59
(8)	I try to pay attention to the reactions of others to my behavior in order to avoid being out of place.	.59
(2)	It is my feeling that if everyone else in a group is behaving in a certain manner, this must be the proper way to behave.	.49
(20)	When in a social situation, I tend not to follow the crowd, but instead behave in a manner that suits my particular mood at the time.[R]	.46
(11)	I tend to pay attention to what others are wearing.	.45
(3)	I actively avoid wearing clothes that are not in style.	.43
(12)	The slightest look of disapproval in the eyes of a person with whom I am interacting is enough to make me change my approach.	.42

Note: N = 987 for the entire factor analysis.

Table 7 shows the second factor resulting from the analysis of the LWCAS: "Cross-Situational Variability". This factor duplicates the solution reported by Lennox and Wolfe. The emphasis of this factor is on one of the results

of impression management, a variable self-presentation. The items loading on this factor emphasize being different-persons for different people such that others are unsure of who this person really is. As with all the factors from the Lennox and Wolfe scales, the items loading on this factor are very narrowly worded.

Together, the items from the LWCAS closely resemble the items from the "Other-Directedness" factor of the SMS and RSMS. This is most clearly the case for the "Attention to Social Comparison Information" factor. This similarity represents the desire of Lennox and Wolfe to localize all items similar to those of the other-directedness factor (items referring to any concern over the image being presented to others) on a scale separate from any scale assessing self-presentation abilities.

Table 7

Lennox and Wolfe CAS Factor II: "Cross-Situational Variability"

Item Number	Item	Loadings
(16)	I am not always the person I appear to be.	.75
(19)	I sometimes have the feeling that people don't know who I really am.	.70
(4)	In different situations and with different people, I often act like very different persons.	.64
(13)	Different people tend to have different impressions about the type of person I am.	.64
(10)	Different situations can make me behave like very different people.	.58
(1)	I tend to show different sides of myself to different people.	.56
(7)	Although I know myself, I find that others do not know me.	.55

Internal Consistency of the Self-Monitoring Measures

Responses to the total score and subscales from Snyder's Self-Monitoring Scale (SMS), Gangestad and Snyder's Revised Self-Monitoring Scale (RSMS), the Lennox and Wolfe Self-Monitoring Scale (LWSMS), and Concern for Appropriateness Scale (LWCAS) were examined for their internal consistency. Two measures were used: (a) Cronbach's alpha; and (b) correlations between the items and the total or subscale scores. Cronbach's alpha is a method of measuring reliability that measures the inter-item consistency of responses to a test or scale. This measure is affected by two sources of error variance: (a) the consistency of content sampling represented by the items; and (b) the heterogeneity of the behaviour domain sampled (Anastasi, 1976, p. 116). This latter aspect is important in the assessment of multiple-factor tests. Specifically, the more homogeneous the behaviour domain that is being tested, the higher will be the measured inter-item consistency. On the other hand, the more heterogeneous the behaviour domain (as in the case of a multiple-factor test), the lower will be this measure of reliability. Table 8 shows the alpha coefficient, the range of item-total correlations, and the mean item-total correlation from each of the total and subscale scores.

Table 8

Internal Consistency of All Self-Monitoring Scores: Cronbach's Alpha and Item-Total Correlations

Scale	Alpha	Item-Total Corr. Range	Item-Total Corr. Mean
SMS (1974): TOTAL SCORE	.64	.01/.41	.21
SMS (1974): "Acting"	.70	.28/.49	.39
SMS (1974): "Extraversion"	.63	.30/.46	.41
SMS (1974): "Other-Directedness"	.52	.17/.32	.26
RSMS (1985): TOTAL SCORE	.69	.13/.42	.27
RSMS (1985): "Acting"	.65	.29/.50	.38
RSMS (1985): "Extraversion"	.64	.30/.47	.39
RSMS (1985): "Other-Directedness"	.52	.22/.33	.27
LWSMS (1984): TOTAL SCORE	.81	.32/.57	.45
LWSMS (1984): "Self-presentation"	.83	.47/.66	.59
LWSMS (1984): "Sensitivity"	.77	.41/.57	.51
LWCAS (1984): TOTAL SCORE	.87	.27/.65	.47
LWCAS (1984): "Social Comparison"	.85	.38/.62	.52
LWCAS (1984): "Variability"	.84	.43/.68	.59

Note: (1) Analyses were based on 1007 cases for the SMS, 1009 cases for the RSMS, 1012 cases for the LWSMS, and 987 cases for the LWCAS.
(2) With the dichotomous format of Snyder's scales, Cronbach's Alpha is equivalent to the KR-20 coefficient.

The Snyder scales. The original SMS produced a moderate reliability coefficient of .64 (very similar to Gangestad and Snyder's .66). The coefficients for the three subscales decrease with increasing factor number, from a high of .70 for the acting subscale, to .52 for the more diffuse other-directedness subscale. The mean item-total correlation for the full scale is low (.21). However, the item-total correlations within each of the three subscales are higher, with the acting and extraversion subscales again showing the highest internal consistency (M = .39 and .41, respectively).

The internal consistency statistics were slightly improved for the RSMS. The total score produced a higher, but still moderate, reliability coefficient of . 69 (very similar to Gangestad and Snyder's .70). The pattern of reliability coefficients for the three subscales was very similar to that from the SMS. However, there was a slight drop in the reliability of the acting subscale (.65 down from .70). The mean item-total correlation for the full scale is still low for the RSMS (.27) but higher than that of the SMS. The mean item-total correlations for each of the subscales is very similar to that reported for the SMS, although the means from the three subscales differ less than was the case for the SMS. In general, the RSMS appears to be a more reliable general measure of self-monitoring. The exclusion of items from the SMS not loading on the first

unrotated factor has resulted in a scale with higher total scale reliability and more uniform inter-subscale item-total correlations. Therefore, it appears that the revision of the SMS has resulted in a more homogeneous measure of self-monitoring.

The Lennox and Wolfe scales. All measures of internal consistency were higher for the Lennox and Wolfe scales than those reported for the SMS and RSMS. The total score reliability coefficient for the LWSMS was quite high: .81 (similar to the .75 reported by Lennox and Wolfe). Internal consistency was also high for the ability to modify self-presentation subscale (.83), and the sensitivity to the expressive behaviour of others subscale (.77). The mean item-total correlation was moderate for the total scale items (.45) and somewhat higher for each of the subscales (.59 and .51). As was the case for the SMS and the RSMS, the LWSMS is most reliable as a measure of the ability to control self-presentation (e.g., as opposed to extraversion or sensitivity to others' behavioural displays).

Cronbach's alpha was also high for the total score and subscale scores of the Concern for Appropriateness Scale (.87, .85, and .84). The item-total correlations were also very similar to those of the LWSMS.

The issue of heterogeneity versus homogeneity. At this point, there are two major methods of measuring self-monitoring, each representing different philosophies on

both measurement and the nature of the self-monitoring construct; the RSMS and the LWSMS. Based on the findings reported to this point, it can be seen that these two measures differ in terms of: (a) the range of questions asked on each of the scales; and (b) the resulting internal consistency statistics. The LWSMS contains items that are essentially subtle rewordings of each other, as opposed to the range of items on the RSMS. However, this narrower range of items appears to result in much greater internal consistency. Therefore, the selection of one of these measures to assess self-monitoring (based on the data to this point) depends partially on the perceived nature of the self-monitoring construct. Anastasi (1976) makes this clear:

> A highly relevant question in this connection is whether the criterion that the test is trying to predict is itself relatively homogeneous or heterogeneous. Although homogeneous tests are to be preferred because their scores permit fairly unambiguous interpretation, a single homogeneous test is obviously not an adequate predictor of a highly heterogeneous criterion. Moreover, in the prediction of a heterogeneous criterion, the heterogeneity of test items would not necessarily represent error variance. (p. 117)

Therefore, although a test may be constructed in such a way as to maximize internal consistency (i.e., a homogeneous test), this may not maximize the validity of this test as the measure of a diffuse (i.e., heterogeneous) construct. In this case, internal consistency, and other tests of reliability will be high. However, other measures of the

validity of the test may be very low. The issue of the homo- or heterogeneity of the self-monitoring construct will be addressed further in later sections.

Intercorrelations

A number of researchers have reported that the full scale score and the subscale scores from the factors of the SMS correlate with other personality measures (e.g., such as extraversion or machiavellianism). Furthermore, it has been demonstrated that the total and subscale scores correlate dissimilarly with these other measures. Reactions to these correlations have been of two forms. Typically, these correlations are interpreted as evidence of the poor construct validity of the SMS (e.g., Briggs et al., 1980). The most extreme case is the claim by Lennox and Wolfe (1984) that because the factors correlate dissimilarly with other variables, the total score "tends to defy interpretation; it is impossible to determine what the scale as a whole might be measuring" (p. 1350).

Relying, in part, on the large number of studies demonstrating self-presentational differences between HSM and LSM individuals, a more moderate position on correlations with the SMS has been presented by Snyder and Gangestad (1986). They see differential correlations between the SMS or RSMS subscales and other measures as a logical consequence of there being variance within the factors that is unexplained by the "general factor" of

self-monitoring. In fact, they go so far as to suggest that any network of intercorrelations may help to clarify the nature of the self-monitoring construct.

Therefore, a matrix of 253 intercorrelations was calculated between subjects' (a) total and subscale scores on the SMS and RSMS; (b) total/subscale scores on the LWSMS and LWCAS; (c) score on the Taylor Manifest Anxiety Scale; (d) extraversion, neuroticism, and lie scale scores from the Eysenck Personality Inventory; (e) score on Rosenberg's Self-Esteem Scale; (f) score on the Machiavellianism Scale; and their scores on (g) the private self-consciousness, public self-consciousness, and social anxiety scales of the Self-Consciousness Scale. All subscales were formed in two steps: (a) reverse-scored items were recoded in the appropriate direction and (b) responses to the subscale items were summed.

These intercorrelations were addressed here not only to assess the relationship between the SMS total/subscale scores and other variables. Also of interest were any changes in the nature of correlations between the RSMS total/subscale scores and other variables, relationships between the LWSMS and LWCAS (total scores and subscale scores) with other variables, and the relationship between the SMS and RSMS on one hand, and the LWSMS and LWCAS, on the other. Therefore, the matrix of correlations forms a partial multitrait (e.g., self-monitoring, self-esteem,

etc.) - multimethod (e.g., RSMS, LWSMS) matrix (Campbell & Fiske, 1959). The primary difference here is that the "methods" were intended by their authors to measure the target trait (self-monitoring) in a distinctly different manner.

To make the presentation of these intercorrelations clearer, they have been divided into 7 categories:

(1) intercorrelations among the total/subscale scores of the SMS and RSMS, respectively;

(2) correlations between the total/subscale scores of the SMS and those of the RSMS;

(3) intercorrelations among the total/subscale scores of the LWSMS and LWCAS;

(4) correlations between total/subscale scores of the SMS and RSMS and those of the LWSMS and LWCAS;

(5) correlations between the total/subscale scores of the SMS and RSMS and other personality measures;

(6) correlations between the total/subscale scores of the LWSMS and LWCAS and other personality measures; and

(7) intercorrelations among the other personality measures.

For these intercorrelations, 32 of the 1031 subjects (or 3.1%) were excluded for making responses outside the range of the requested scale. Specifically, these subjects answered the final questions of the inventory (the Self-Consciousness Scale) using a 5- rather than the correct 4-point response scale. Extensive checks of responses to

other scales failed to show any other cases of extra-scale responses. However, for some of the correlations, 1 further subject was deleted due to missing responses.

The final prefatory issue concerns the interpretation of different magnitudes of correlations. Given the sizable number of subjects involved in the intercorrelations (N = 998 - 999), even small correlations achieve statistical significance. Furthermore, with intercorrelations among a large number of variables, the standard test of significance (based on the *t* test) is highly susceptible to Type 1 errors. Under these circumstances, Hays (1973) recommends that the researcher "interpret the significance levels with considerable latitude" (p. 713).

Therefore, three steps were taken to clarify the interpretation of the correlations presented. First, correlations were considered statistically significant only if they exceeded the criterion of $p < .001$ with two-tailed significance testing. Second, correlations were considered as a network and examined for overall patterns of correlations, with individual correlations given less weight.

Finally, several sources were examined for guidance in establishing the critical magnitude of a meaningful correlation. Anastasi (1976) speaks to the importance of smaller (statistically significant) correlations:

> A test may appreciably improve predictive efficiency if it shows any significant correlation with the criterion, however low. Under certain circumstances, even validities as low as .20, or .30 may justify inclusion of the test in a selection program. (p. 116)

This statement can be interpreted as indicating that with a group of tests (correlations), lower significant correlations may be meaningful. In Snyder's (1974) original presentation of intercorrelations between the SMS and other variables, correlations less than .20 were discussed as "slight" or "very slight", correlations less than .30 were discussed as "low" or "small", and correlations over .30 were discussed without qualifications. Within the area of attitude/behaviour consistency, much attention has been given to the question of how the predictive validity of self-assessment can be improved above .30 (e.g., Gibbons, 1983). Within this literature, correlations of .30 and lower appear to be considered by many as meaningful but small.

Finally, Friedman (1972, as cited in Hosch, Leippe, Marchioni, & Cooper, 1984) has provided guidelines for interpreting magnitude of effect measures that are expressed as correlation ratios (square root of the proportion of variance explained by the observed effect). Friedman has arbitrarily described values less than .30 as small effects, between .30 and .50 as moderate effects, and greater than .50 as large effects. Based on all of the above sources,

correlations that are statistically significant (> .11) but less than .30 will be labelled "small" or "low", correlations between .30 and .50 will be considered "moderate", and correlations exceeding .50 will be considered "high" or "strong".

Intercorrelations within the SMS and RSMS. Table 9 shows the intercorrelations between the total score and subscores of the SMS. As would be expected, the total score of the SMS shows a strong relationship with each of the three subscales (.51 to .77). The acting subscale correlates highly with the extraversion subscale (.61) but moderately with the other-directedness subscale (.32). Finally, the extraversion subscale exhibits only a small relationship with other-directedness (.12).

Table 22 shows the intercorrelations between the total score and subscores of the RSMS (because of the high degree of similarity of correlations involving the RSMS to those of the SMS, tables of the former can be found in Appendix B). Essentially, the pattern here is the same as the intercorrelations of the SMS. Although the relationship between the acting and extraversion subscales has decreased slightly (.48 from .68), the smallest relationships are still those with the more diffuse other-directedness subscale.

Table 9

Intercorrelations: Total Score and Subscales from SMS (1974)

Scale/Subscales	2	3	4
1. Snyder 1974	.77*	.51*	.70*
2. Snyder 1974 I: Acting		.61*	.32*
3. Snyder 1974 II: Extraversion			.12*
4. Snyder 1974 III: Other-Directed			

Note: N = 998 - 999.

* $p < .001$, two-tailed.

Intercorrelations between the SMS and RSMS. Table 10 shows the intercorrelations between the total and subscale scores of the SMS with the same scores from the RSMS. As reported by Gangestad and Snyder (1985b), the original and revised total scores correlate highly (.93). Further, the diagonal of this matrix shows that the subscales derived from the two versions of the Self-Monitoring Scale are also highly related (.88 to .93). Correlations of each of the full scale scores with the subscale scores of the other scale are also high, similar to the correlations reported in Tables 9 and 22. Also as in the previous findings, the other-directedness subscale of each of the versions shows

only a small relationship with extraversion, and a larger, moderate relationship with the acting subscale. The relationships between the acting and extraversion subscales of the two versions were more variable, with the RSMS - acting/SMS - extraversion correlation showing a moderate relationship while the RSMS - extraversion/SMS - acting correlation shows a strong relationship. However, examination of the items loading on these factors shows that the latter correlation is inflated by three items shared by the two factors (as is not the case for the former relationship).

The above findings indicate a consistently high relationship between the SMS and the RSMS. At this point, then, given that the RSMS is shorter, has somewhat better internal consistency, and is highly related to the original SMS cited in the literature, it appears that this revised scale can, and should, be used in the future. However, the relationships between responses to these two versions are all based on a restricted pool of shared items. Therefore, it is important to assess the external relationships between each of these versions and other measures.

Table 10

Intercorrelations: Total Score and Subscales from SMS (1974) with RSMS (1985)

Scales/Subscales	Gangestad & Snyder (1985) Full	I	II	III
1. Snyder 1974	.93*	.73*	.57*	.70*
2. Snyder 1974 I: Acting	.85*	.93*	.70*	.37*
3. Snyder 1974 II: Extraversion	.62*	.35*	.95*	.14*
4. Snyder 1974 III: Other-Direct	.58*	.34*	.14*	.88*

Note: N = 998 - 999.

* $p < .001$, two-tailed.

Intercorrelations between the total and subscale scores of the LWSMS and LWCAS. Table 11 shows the intercorrelation matrix formed by the LWSMS and LWCAS and the two subscales derived from each scale. As would be expected, the two scales correlate highly with their subscales (.74 to .89). Correlations between the two subscales of each scale were low (.27) in the case of the LWSMS and moderate (.39) in the case of the LWCAS. The low correlation of the sensitivity subscale with the self-presentation subscale of the LWSMS is supported by an absence of a relationship between the sensitivity subscale and the LWCAS (total scale and

subscales). Thus, the "sensitivity to the expressive behaviour of others" subscale appears to tap portions of the self-monitoring construct distinct from the other items of the Lennox and Wolfe scales.

Lennox and Wolfe's intent with the formation of the separate Concern for Appropriateness Scale was to isolate items that tap any anxiety or lack of confidence over self-presentation. However, the total score on the LWSMS still shows small but consistent correlations with the LWCAS (.20 to .28). Further, the self-presentation subscale of the LWSMS also shows small to moderate correlations with the LWCAS (.27 to .34).

Table 11

Intercorrelations: Total Score and Subscales from Lennox and Wolfe Self-Monitoring and Concern for Appropriateness Scales

Scales/Subscales	2	3	4	5	6
1. Lennox & Wolfe Self-Monitoring	.85*	.74*	.28*	.20*	.28*
2. Lennox & Wolfe SM I: Self-Presentation		.27*	.34*	.27*	.31*
3. Lennox & Wolfe SM II: Sensitivity			.07	.03	.10
4. Lennox & Wolfe Concern for Appropriateness				.89*	.76*
5. Lennox & Wolfe CAS I: Social Comparison					.39*
6. Lennox & Wolfe CAS II: Variability					

Note: N = 998 - 999.

* $p < .001$, two-tailed.

Intercorrelations between the SMS and RSMS, and the Lennox and Wolfe scales. Table 12 shows the intercorrelations between responses to the SMS and responses to the LWSMS and LWCAS. In looking at correlations with the total score of the SMS, it can be seen that there is a moderate correlation (.41) between this score and the total score on the LWSMS. The total score also correlates moderately (.50) with the LWSMS self-presentation subscale

but does not correlate significantly with the sensitivity subscale. As well, the total SMS correlates moderately (.33 to .40) with the LWCAS and each of its subscales.

Intercorrelations between the acting and extraversion subscales of the SMS and the LWSMS total score, and self-presentation subscale, respectively were moderate and highly similar (.33 to .41). Of interest is the finding that the other-directedness subscale shows a low (.24) correlation with the LWSMS total score and a moderate (.35) correlation with the self-presentation subscale. These correlations indicate that the components of responding to the SMS other-directedness subscale have not been completely removed from the LWSMS.

The sensitivity subscale of the LWSMS did not correlate with the SMS total score or other-directedness subscale. Correlations with the acting and extraversion subscales were small (.21 and .15, respectively). On the whole, the sensitivity subscale of the LWSMS seems to measure a domain relatively distinct from the SMS or the remainder of the Lennox and Wolfe items.

There were moderate to high (.37 to .51) correlations between the three LWCAS scores and the other-directedness subscale of the SMS. These correlations support the notion that the LWCAS isolates components of responding tapped by the other-directedness subscale. Less important are two small correlations between the variability subscale of the

LWCAS and the acting (.16) and extraversion (-.13) subscales of the SMS.

Table 23 (Appendix B) shows the matrix of intercorrelations among the four scores of the RSMS and the Lennox and Wolfe scales. On the whole, the pattern of correlations is very similar to that shown with the SMS. The correlation between the total scores of the SMS and LWSMS is now somewhat higher (.45) and is similar to the finding reported by Snyder and Gangestad (1986). There is now a significant but low (.14) correlation between the total SMS and the sensitivity subscale of the LWSMS. However, if the sensitivity subscale is a valid measure of self-monitoring sensitivity, then the small relationships between the SMS and RSMS scores and this subscale may indicate a weakness on the part of these scales. It is possible that the SMS and RSMS measure only self-presentational differences and not sensitivity to others, an important component of self-monitoring.

There are two other differences between the SMS and RSMS shown in these intercorrelations. First, the correlations between the total RSMS and the scores of the LWCAS are now consistently low (.20 to .29) rather than moderate. This may indicate that the RSMS has a smaller potential anxiety component than the SMS. Second, the relationship between the acting subscale and the LWCAS has been strengthened by a now significant correlation with the

total LWCAS (.15) accompanying the significant correlation with the variability subscale (.22). However, these small correlations are again overshadowed by the moderate relationship between the other-directedness subscale of the RSMS and the LWCAS scores.

Table 12

Intercorrelations: Total Score and Subscales from SMS (1974) with the Lennox and Wolfe Self-Monitoring and Concern for Appropriateness Scales

	Snyder (1974)			
Scales/Subscales	Full	I	II	III
1. Lennox & Wolfe Self-Monitoring	.41*	.41*	.33*	.24*
2. Lennox & Wolfe SM I: Self-Presentation	.50*	.41*	.36*	.35*
3. Lennox & Wolfe SM II: Sensitivity	.10	.21*	.15*	-.02
4. Lennox & Wolfe Concern for Appropriate.	.40*	.10	-.08	.51*
5. Lennox & Wolfe CAS I: Social Comparison	.33*	.03	-.04	.46*
6. Lennox & Wolfe CAS II: Variability	.34*	.16*	-.13*	.37*

Note: N = 998 - 999.

* $p < .001$, two-tailed.

Intercorrelations of the SMS and RSMS with other personality measures. The relationships between the SMS and RSMS and other personality measures are important in evaluating the construct validity of these Self-Monitoring Scales. Table 13 shows the matrix of intercorrelations among the four scores of the SMS and the nine scores derived from the personality measures that were administered. Looking first at the total SMS score, there are a number of small relationships with the other measures, including neuroticism (.13), the lie scale (-.25), machiavellianism (.29), both private (.20) and public (.25) self-consciousness, and social anxiety (-.19). In addition, the total SMS shows a moderate (.40) relationship with extraversion. As a whole, these correlations indicate that the HSM individual is somewhat of an extravert with a belief that people can be manipulated or at least controlled (machiavellian). Also, a component of the HSM individual's impression management appears to be a generalized concern over well-being (neuroticism), and a disposition to attend to both private and public aspects of the self (self-consciousness). Somewhat contradictory is the small negative correlation with social anxiety. This can best be explained by seeing the HSM individual (measured by the total score) as someone with a concern with, but not anxiety over, self-presentation.

Of interest are the small but consistent negative relationships between the Eysenck Lie Scale and the four scores of the SMS (-.11 to -.25). There are at least two possible interpretations for this relationship. First, HSM individuals may be more sensitive than LSM individuals to what others are going to "buy" in terms of their self-presentation and thus are less likely to lie. In other words, HSM individuals may be more likely to "make a claim to an image" that they know they can defend (Goffman, 1955). The other possible interpretation is that LSM individuals may, in fact, be more "virtuous" than HSM individuals. With the LSM individuals' greater adherence to their internal standards, they may actually be more likely to keep promises, not gossip, not talk about things they know nothing about (examples from the Lie Scale), and so on.

Consistent with previous findings (e.g., Briggs, et al., 1980), the SMS subscales show a different pattern of intercorrelations than the total score. The acting subscale (I) displays small relationships with machiavellianism (.22) and private self-consciousness (.17), a moderate negative correlation with social anxiety (-.36), and a moderate correlation with extraversion (.48). The similarity between the intercorrelations with the acting subscale and those with the total score supports the claim that the SMS measures primarily theatrical acting ability (cf. Lennox and Wolfe, 1984). However, the absence of a relationship with

neuroticism, and the increase in the negative relationship with social anxiety shown by this subscale indicates that, by itself, the acting subscale measures a more confident self-presentation than does the total score.

Correlations with the extraversion subscale (II) strongly support its label. Not only does this subscale correlate highly with a measure of extraversion (.53) but it also shows small negative relationships with manifest anxiety (-.24) and neuroticism (-.17), as well as a small positive correlation with self-esteem (.24) and a moderate negative correlation with social anxiety (-.45). Thus, this subscale, by itself, measures a very confident, extraverted self-presentational style.

Correlations with the other-directedness subscale (III) support the notion that this subscale may tap an anxious concern over self-presentation (Lennox and Wolfe, 1984). Scores on this subscale showed small positive correlations with manifest anxiety (.25), neuroticism (.22), and a small negative correlation (-.16) with self-esteem. In addition, this subscale shows small correlations with extraversion (.15), machiavellianism (.19), and both private (.13) and public (.28) self-consciousness.

Table 13

Intercorrelations: Total Score and Subscale Scores from SMS (1974) with Other Personality Measures

Scales	Total and Subscale Scores			
	Full	I	II	III
1. Taylor Manifest Anxiety	.09	-.06	-.24*	.25*
2. Eysenck Extraversion	.40*	.48*	.53*	.15*
3. Eysenck Neuroticism	.13*	.00	-.17*	.22*
4. Eysenck Lie Scale	-.25*	-.20*	-.12*	-.11*
5. Rosenberg's Self-Esteem	-.02	.08	.24*	-.16*
6. Machiavellianism	.29*	.22*	.05	.19*
7. Private Self-Consciousness	.20*	.17*	.01	.13*
8. Public Self-Consciousness	.25*	.09	.01	.28*
9. Social Anxiety	-.19*	-.36*	-.45*	.07

Note: N = 998 - 999.

* $p < .001$, two-tailed.

Table 24 (Appendix B) shows the matrix of intercorrelations between the four scores of the RSMS and the nine scores from the personality measures. The pattern

of results shown here is very similar to that shown by the SMS. One interesting difference is that neuroticism does not now correlate ~~with~~ the full scale score (unlike the SMS). In addition, the negative relationship between the full scale and social anxiety is larger (-.30 from -.19) while the same relationship with the acting subscale is somewhat smaller (-.27 from -.36). It cannot be said on the basis of these correlations alone that the RSMS has "better" construct validity than the SMS. However, for those who are who wish to capture only the confident HSM individual with the total score (e.g., Lennox and Wolfe, 1984), the RSMS will represent an improvement.

Clearly, each of the three rotated factors of the SMS and RSMS tap aspects of personality different from those of the total score and each other. Acknowledgement of this consistent finding has resulted in the following suggestion by Snyder and Gangestad (1986):

> Because it is possible that the factors do possess external relations independently of the general factor, and because these relations may contribute to a better understanding of self-monitoring phenomena, we encourage researchers, in addition to analyzing their studies using the Self-Monitoring Scale, to examine the relations of the rotated factors to their criterion variables. (p. 130)

Although it is clear that the factors tap unique domains, it is far less clear what this means for the construct of self-monitoring. In some cases, the factors may be related to variables that are unrelated to self-monitoring by virtue

of "independent variance" (Snyder and Gangestad, 1986). On the other hand, the factors may tap variables that contribute to the self-monitoring construct. For example, the total score of the SMS does not correlate with manifest anxiety but the extraversion and other-directedness subscales do correlate with this construct. Furthermore, the extraversion subscale correlates negatively, while the other-directedness subscale correlates positively with this measure. This same finding has also been reported by Cheek and Briggs (1981, as cited in Snyder and Gangestad, 1986). Snyder and Gangestad (1986) have responded to this finding by suggesting that there is sufficient variance that is orthogonal to the general self-monitoring factor to accommodate the variance that is related in opposite ways to trait anxiety (p. 131). However, the important question is: When is a relationship between one or more of the subscales of the SMS due to construct-relevant variance, and when is it due to "orthogonal" variance? When should we consider trait anxiety as a relevant component of self-monitoring, and when should we consider it as due to orthogonal error variance?

Snyder has suggested that researchers examine relationships among their criteria and the subscale scores. This suggestion serves as an acknowledgement by Snyder that it is important to address the contributions of the rotated factors to the overall construct of self-monitoring.

However, examination of the significance of the factors to self-monitoring will require incorporating the subscale scores into all further examinations of the self-monitoring construct. In other words, the subscale scores must be formally included in the continuing process of construct validation.

Intercorrelations of the LWSMS and LWCAS with other personality measures. Table 14 shows the matrix of intercorrelations between the LWSMS and the other personality measures. Both the total score and self-presentation subscale show a highly similar pattern of correlations with the other measures. Both the total score and the self-presentation subscale show low positive correlations with extraversion (.27 and .30), self-esteem (.18 and .19), machiavellianism (.14 and .20), and both private (.22 and .15) and public (.16 and .16) self-consciousness. In addition, these two scores show low negative correlations with Manifest Anxiety (-.12 and -.18) and social anxiety (-.23 and -.26). Thus, both the total score and the self-presentation subscale appear to isolate the confident self-monitoring individual. However, the desire of Lennox and Wolfe to remove any relationship with extraversion has not been met.

The only statistically significant relationship with the sensitivity subscale was a low positive correlation with private self-consciousness. It is not clear why attending

to internal aspects of the self should be related to sensitivity to the expressive behaviour of others or, in fact, what a small isolated correlation really means. An assessment of the validity of this subscale would require incorporating other measures designed to assess sensitivity to the expressive behaviour of others (e.g., sensitivity-to expressed emotions, speech inflections, etc.).

Table 15 shows the intercorrelations between the three scores of the LWCAS and the personality measures. It can be seen that: (a) the only personality variable with which these three scores don't show a relationship is extraversion; (b) the three scores show highly similar intercorrelations with the personality measures; and (c) Lennox and Wolfe's objective to isolate the more anxious components of self-monitoring on this scale has been met. All three scores show a small to moderate relationship with Manifest Anxiety (.30 to .37) and neuroticism (.29 to .37), a small relationship with social anxiety (.18 to .27), and small, negative relationship with self-esteem (-.18 to -.26).

Table 14

Intercorrelations: Total Score and Subscale Scores from Lennox and Wolfe's Self-Monitoring Scale with Other Personality Measures

Scales	Total and Subscale Scores		
	Full	I	II
1. Taylor Manifest Anxiety	-.12*	-.18*	.00
2. Eysenck Extraversion	.27*	.30*	.11
3. Eysenck Neuroticism	-.05	-.11	.05
4. Eysenck Lie Scale	.01	-.04	.08
5. Rosenberg's Self-Esteem	.18*	.19*	.08
6. Machiavellianism	.14*	.20*	.00
7. Private Self-Consciousness	.22*	.15*	.22*
8. Public Self-Consciousness	.16*	.16*	.08
9. Social Anxiety	-.23*	-.26*	-.08

Note: N = 998 - 999.

* $p < .001$, two-tailed.

Table 15

Intercorrelations: Total Score and Subscale Scores from Lennox and Wolfe's Concern for Appropriateness Scale with Other Personality Measures

Scales	Total and Subscale Scores		
	Full	I	II
1. Taylor Manifest Anxiety	.37*	.30*	.32*
2. Eysenck Extraversion	.02	.02	-.02
3. Eysenck Neuroticism	.37*	.29*	.32*
4. Eysenck Lie Scale	-.15*	-.10	-.14*
5. Rosenberg's Self-Esteem	-.25*	-.18*	-.26*
6. Machiavellianism	.29*	.17*	.33*
7. Private Self-Consciousness	.27*	.19*	.27*
8. Public Self-Consciousness	.47*	.48*	.27*
9. Social Anxiety	.27*	.26*	.18*

Note: N = 998 - 999.

* $p < .001$, two-tailed.

Measures correlating with both the SMS and LWSMS. At this point, it is possible to look at consistent

correlations across the two methods of assessing self-monitoring (the SMS and LWSMS). "Consistent" here refers to a personality measure that correlates with both the total score and at least one subscale of both the SMS/RSMS and LWSMS. Using this criterion, there are consistent low to moderate positive relationships across the two scales with extraversion, machiavellianism, and both private and public self-consciousness, as well as a low negative relationship with social anxiety.

Consistent relationships across two methods of measuring a construct can be viewed as indicators of the "true" nature of the construct. Across both measures the HSM individual appears to be an extravert who feels that people can be controlled. This person also shows a concern for both the internal/private aspects of the self, as well as how this self is portrayed to others, but is not socially anxious. In general, then, these relationships support and strengthen the notion of individual differences in impression management reflected in the construct of self-monitoring.

The issue of anxiety in the measurement of self-monitoring. The possible presence of an anxiety component is a consistent theme in criticisms of the SMS (e.g., Briggs et al., 1980, Lennox & Wolfe, 1984, Cheek & Briggs, 1981). The greatest concern stems from repeated demonstrations that the other-directedness subscale of the

SMS correlates with manifest anxiety while the remaining subscales not only do not correlate with this construct but also show consistent relationships with measures of "confidence" (e.g., extraversion, self-esteem). These relationships were cited by Lennox and Wolfe as a major reason for creating the separate LWSMS and LWCAS scales.

This study replicated previous relationships found between the other-directedness subscale (and the total score) and measures of anxiety. As expected, the LWCAS (total and subscale scores) also correlated with measures of anxiety. Not surprisingly, the other-directedness subscale correlated consistently with the highly similar LWCAS scales. This would be expected given the incorporation of items from the other-directedness subscale into the LWCAS (e.g., "In different situations and with different people, I often act like very different persons"; SMS item 13, LWCAS item 4).

What is interesting here, though, is not the differential relationships between SMS subscales and measures of anxiety. Rather, it is what these intercorrelations may suggest about the construct of self-monitoring. Of relevance were the relationships between the LWSMS and both the LWCAS and other-directedness subscale of the SMS. Clearly, the attempt by Lennox and Wolfe to remove any anxiety component from the LWSMS and isolate it in the LWCAS has not been completely successful.

However, rather than focussing on the short-comings of the Lennox and Wolfe scales, it may be more informative to examine these findings as indicative of a consistent role of anxiety in self-monitoring (i.e., across measures of the construct).

However, on the basis of intercorrelations alone, the issue of an anxiety component within self-monitoring is equivocal. As Snyder and Gangestad (1986) point out, the correlations between measures of self-monitoring and measures of manifest anxiety may be the result solely of variance unassociated with self-monitoring (error variance). On the other hand, it is possible that anxiety plays some role (or roles) at some point in the self-monitoring process. For example, any process of self-examination (self-consciousness) involved in self-monitoring may result in an anxiety-producing discovery that the image being projected fulls short of the image desired (e.g., Carver, 1979).

In any case, whether or not anxiety plays a role in self-monitoring, and at what point in the process, remains an empirical question. However, addressing this issue will require more than further intercorrelations. Rather, the consistent intercorrelations of self-monitoring measures with measures of anxiety should be seen as indicators for further experimental inquiry (cf. McCall, 1977).

Intercorrelations among the other personality measures. Table 25 (a and b; see Appendix C) shows the matrix of intercorrelations among the nine personality measures. The major purpose for examining these correlations was to verify the nature of these scales by demonstrating that they correlate with other scales in the way expected. However, it must be noted that the degree to which the characteristics of the scales can be addressed was limited by the subset of tests that were selected for administration. These tests were selected as those that might form interesting relationships with the Self-Monitoring Scales and not those that would form a balanced multitrait-multimethod matrix (Campbell & Fiske, 1959). In total, though, the personality measures that were selected for the intercorrelation matrix show an interpretable pattern of intercorrelations that validate the constructs the tests were intended to measure.

Factor Analysis of Scales

To analyze further the intercorrelations among the measures that were administered (both self-monitoring and other measures), two separate factor analyses were conducted. The first analysis entered the total scores from each of the personality measures, as well as the total scores from the RSMS, LWSMS, and LWCAS. Scores from the RSMS, rather than the SMS, were selected for two reasons. First, it was felt that the RSMS is a superior scale to the

SMS, and will appear in future literature. Second, the RSMS produces results highly similar to those of the SMS. The second analysis entered the total scores from each of the personality measures, as well as the 3 subscale scores from the RSMS, 2 subscale scores from the LWSMS, and the 2 subscale scores from the LWCAS. Separate analyses of total and subscale scores were conducted for two reasons: (a) including both total and subscale scores in a factor analysis results in an ill-conditioned matrix that may yield inaccurate results; and (b) total score and subscores may present different pictures of the relationship between the target scales and other measures.

For both analyses, a principle-axes extraction, followed by both varimax (orthogonal) and oblimin (oblique) rotations was performed. As was the case for the item analyses, the number of factors that were retained for final rotation was based on the following considerations: (a) eigenvalues over one; (b) application of Cattell's (1966) scree test; (c) discontinuities in the eigenvalues; and (d) interpretability of the final factors. For the analysis of total scores, all four criteria indicated that a 3-factor solution was most appropriate. In the case of the analysis of subscale scores, discontinuities in the eigenvalues and interpretability of the resulting factors indicated that a 4-factor solution was most appropriate. Selection of the rotated solution to be reported here was

also based on the clarity and interpretability of the final rotated factors; for both analyses the varimax solution is reported. The scale inclusion criterion was a factor loading of at least .30.

Factor analysis of total scores. Table 16 shows the three rotated factors that were extracted from the factor analysis of total scores. This solution accounted for a substantial 47.7% of the total variance (99.8% common variance) that was divided among the three factors (I to III, respectively) in the following manner: (a) 25.5% (53.3% common); (b) 15.9% (33.3%); and (c) 6.3% (13.2%).

For Factor I, the tests showing the highest loadings were Taylor's Manifest Anxiety Scale, and the Eysenck Neuroticism Scale. In addition, both the LWCAS and Social Anxiety Scale show smaller, positive loadings. Finally, the Rosenberg Self-Esteem Scale loaded negatively on this factor. Given the emphasis of these tests on anxiety and self-doubt, this factor can be labelled: "Negative Self-Feelings".

In the case of Factor II, the tests showing positive loadings (in decreasing order) include the RSMS, the Eysenck Extraversion Scale, the LWSMS, and the Machiavellianism Scale. Two tests showed negative loadings on this factor: the Social Anxiety Scale, and the Eysenck Lie Scale. Because of the presence of the two Self-Monitoring Scales

and the Machiavellianism Scale, this factor is labelled: "Control over Self-Presentation".

Finally, in the case of Factor III, all significant loadings were positive. Tests loading on this factor included Public Self-Consciousness, Private Self-Consciousness, the LWCAS, the Social Anxiety Scale, and the LWSMS. Because of the presence of all three subtests of the Self-Consciousness Inventory, and both of the Lennox and Wolfe scales, this factor is labelled: "Concern over Self-Other Consistency".

Of primary interest here is the "Control over Self-Presentation" factor. Three of the four tests loading on this factor along with the RSMS and LWSMS are tests that showed consistent intercorrelations with the two Self-Monitoring Scales: Extraversion, Machiavellianism, and Social Anxiety (negative loading). Thus, this factor solution provides additional support for the relationship between self-monitoring and both Extraversion and the manipulative attitudes inherent in Machiavellianism. On the other hand, the negative loading of Social Anxiety, and the absence of any self-monitoring loadings on the "Negative Self-Feeling" factor, does not support the suggestion that anxiety is a component of self-monitoring. Further, given that both Private and Public Self-Consciousness also load on a separate factor, it appears from this factor solution that the RSMS measures confident self-presentation.

Other findings of interest in this factor solution include the second, smaller loading of the LWSMS on the "Concern over Self-Other Consistency Factor". There are two possible reasons for this loading: (a) the total LWSMS taps into this anxious concern over consistency with others; or (b) the sensitivity subscale of the LWSMS alone taps this factor and has produced this loading. In either case, the total score of the LWSMS at least partially taps a concern over fitting in with others. Also of interest is the double loading of the LWCAS on both the "Negative Self-Feelings" and "Concern over Self-Other Consistency" factors. Clearly the LWCAS taps the more negative aspects of adapting to other people. Finally, the negative loading of the Lie Scale on the control over self-presentation factor is again interesting. This finding adds support to a relationship between the Lie Scale and total self-monitoring. As was addressed previously, this may be due either to the tendency of the impression manager to make a "face-valid self-presentation" or the more virtuous character of the non-impression manager.

Table 16

Factor Loadings: Factor Analysis of Total Scores

Total Score	Factors I	II	III
1. RSMS	-.11	.80*	.18
2. LWSMS	-.24	.44*	.31*
3. LWCAS	.32*	.29	.47*
4. Manifest Anxiety	.91*	.03	.20
5. Extraversion	-.24	.56*	-.01
6. Neuroticism	.80*	.10	.26
7. Lie Scale	-.15	-.35*	.01
8. Self-Esteem	-.61*	.07	-.09
9. Machiavellianism	.19	.37*	.09
10. Private S-C	.15	.07	.61*
11. Public S-C	.20	.06	.81*
12. Social Anxiety	.49*	-.39*	.37*

Note: (a) N = 998 - 999

(b) * denotes loadings > |.30|

Factor analysis of subscale scores. Table 17 shows the four rotated factors that were extracted from the factor analysis of subscale scores. This solution accounted for a substantial 47.4% of the total variance (99.9% common variance) that was divided among the three factors (I to IV, respectively) in the following manner: (a) 21.4% (45.3%

common); (b) 16.2% (34.0%); and (c) 5.2% (11.1%); and (d) 4.5% (9.5%).

Interpretation of the first two factors does not differ substantially from the interpretation of the first two factors from the factor analysis of total scores. There are only two differences in the subscale loadings on the first factor. First, the self-presentation subscale of the LWSMS displays a negative loading. Second, the LWCAS scores do not load on this factor. Therefore, the label for this first factor duplicates the label from the total scores analysis: "Negative Self-Feelings".

The second subscale factor is also similar to the second factor resulting from the total scores analysis, with the exceptions that neither the Lie Scale or Machiavellianism Scale load on this factor. However, given the loadings by the active self-presentational subscales of both the RSMS and LWSMS, the label for this second factor duplicates the label from the total scores analysis: "Control over Self-Presentation".

The third and fourth factors of this 4-factor solution represent more specific components of the "Concern over Self-Other Consistency" factor from the total scores analysis. As Table 17 shows, the third factor shows positive loadings by (in descending order): the LWCAS cross-situational variability subscale; the RSMS other-directedness subscale; the LWCAS attention to social

comparison information subscale; the LWSMS ability to modify self-presentation subscale; the Machiavellianism scale; and the RSMS acting subscale. Given the loadings on this factor by three self-monitoring subscales, and the two subscales of the LWCAS, this factor is labelled: "Other-Directed Self-Presentation".

The fourth and final factor consists of loadings by the three subtests of the Self-Consciousness Inventory, in addition to a loading by the attention to social comparison information subscale of the LWCAS. Given the predominance of the self-consciousness measures, and their consistency with the LWCAS subscale, this factor is labelled: "Public and Private Self-Consciousness".

Again, the loadings of the various self-monitoring subscales are of primary interest. The double loadings of both the acting subscale of the RSMS, and the self-presentation subscale of the LWSMS on the control over self-presentation and other-directed self-presentation subscales of this solution is logical given both subscales tap aspects of controlled self-presentation. However, these double loadings highlight a contrast between confident, controlled self-presentation in itself (Factor II), and self-presentation that is responsive to the presence of other people in the situation (Factor III). It appears that both the LWSMS and the RSMS tap these two components. Further, the loading of the extraversion subscale of the

RSMS on Factor II and the loading of the other-directedness on Factor III, supports this interpretation. On the other hand, the self-monitoring measures continue not to load on negative self-feelings factor. Therefore, there is no direct support here for a role of anxiety (and other negative affect) in the measurement of self-monitoring.

Of further interest here is the absence of any loadings by the Lie Scale. It is possible that any relationship between the Lie Scale and self-monitoring may only exist when self-monitoring is considered in total.

Table 17

Factor Loadings: Factor Analysis of Subscale Scores

Total Score	Factors			
	I	II	III	IV
1. RSMS: Acting	.00	.59*	.33*	.08
2. RSMS: Extraversion	-.17	.80*	-.01	.07
3. RSMS: Other-Directed	.09	.18	.66*	.11
4. LWSMS: Self-Presentation	-.32*	.37*	.48*	.24
5. LWSMS: Sensitivity	-.05	.20	.02	.24
6. LWCAS: Social Comparison	.13	-.10	.48*	.35*
7. LWCAS: Variability	.19	-.06	.68*	.18
8. Manifest Anxiety	.88*	-.15	.18	.17
9. Extraversion	-.13	.64*	.09	.02
10. Neuroticism	.82*	-.04	.17	.24
11. Lie Scale	-.16	-.22	-.22	.04
12. Self-Esteem	-.56*	.21	-.16	-.04
13. Machiavellianism	.15	.14	.41*	-.01
14. Private S-C	.20	.05	.10	.61*
15. Public S-C	.20	-.05	.21	.77*
16. Social Anxiety	.40*	-.53*	.05	.31*

Note: (a) N = 998 - 999

(b) * denotes loadings > |.30|

Discussion

The results can be discussed in light of two issues relevant to the assessment of self-monitoring. The first issue concerns the process of construct validation itself. More specifically, this issue concerns the nature and interpretation of the construct of self-monitoring. The other issue concerns a comparison of the two different scales that have been offered to measure self-monitoring; Snyder's SMS (and the RSMS), and the Lennox and Wolfe Self-Monitoring Scale (LWSMS). In many ways these two issues are interrelated. The way in which the construct of self-monitoring is construed determines not only the nature of the scale that is developed to measure it but also determines how findings relevant to the scale are interpreted. As will become apparent, Snyder (Gangestad & Snyder, 1985a; Snyder & Gangestad, 1986) and Lennox and Wolfe (1984) have adopted distinctly different attitudes toward the self-monitoring construct, scale construction, and the proper process of construct validation.

The Snyder Scales

The findings of this study replicated other research on the SMS (e.g., Briggs et al., 1980). Factor analysis of responses to the SMS (and RSMS) reproduced the well-known factors of "acting", "extraversion", and "other-directedness". An examination of intercorrelations with total and subscale (factor) scores, as well as a factor

analysis of subscale scores, verified the consistent claim that the three factors correlate independently with other measures. The acting factor was shown to measure essentially theatrical acting ability. The extraversion factor also was demonstrated to be true to its label. In contrast, the other-directedness factor was shown to measure a possibly anxious concern over the opinions of others; a finding that also replicates previous results. Finally, both intercorrelations with other measures and factoring of the total scores of the various measures showed consistent components (in all Self-Monitoring Scales) of extraversion, machiavellianism, as well as negative relationships with social anxiety (indicating confidence), and a Lie Scale.

Findings such as these have been viewed in two different ways. Many (most notably Briggs et al. and Lennox and Wolfe) have adhered closely to "rules" of psychometric purity, and have seen the presence of factors that correlate differentially with other measures as critically weakening the SMS as a measure of self-monitoring. Briggs et al. (1980) have said that different ways of responding to the items (from the three factors) results in the assessment of different kinds of self-monitoring individuals. Lennox and Wolfe (1984) have echoed these comments and suggested that the total score from the SMS is uninterpretable.

On the other hand, Snyder (e.g., Snyder & Gangestad, 1986) has taken a quite different stance on the factor

structure of the SMS. His position is that the factors are, in fact, dimensional variables that contribute to individual differences in self-monitoring. Further, since it is entirely likely that self-monitoring does not account for all the variance in responding, it is quite likely that the factors will show relationships with measures unrelated to self-monitoring. Perhaps most importantly, Snyder has stated that individuals with different patterns of responses on the three factors may, in fact, differ psychologically but not in ways inconsistent with the measurement of self-monitoring (Snyder & Gangestad, 1986).

Clearly, these two general views of the SMS's psychometric properties are very different. Although Snyder argues for the strength of the "unitary causal entity" (or general factor) that underlies responding to the SMS and considers the factors of lesser importance, others see the SMS as impure.

In an attempt to improve the measurement of self-monitoring, Lennox and Wolfe (1984) constructed a new 13-item Self-Monitoring Scale. This scale was designed to solve five perceived problems of the SMS: (1) a competing factor structure; (2) consistent correlations with extraversion; (3) a lack of measures of sensitivity to others; (4) indications of an anxiety component (the other-directedness factor); and (5) an emphasis on the measurement of theatrical acting. Their major goal was to

produce a scale that measures only confident control over day-to-day impression management.

Findings reported here supported the strong, psychometrically engineered factor structure reported by Lennox and Wolfe. Not only was this structure shown to account for more than four times the total variance in responding than did the SMS but internal consistency statistics indicated a much higher degree of consistency in responses to the LWSMS. Examination of intercorrelations with other measures indicated that the LWSMS had, in fact, largely removed any anxiety component, and was now selecting primarily the confident impression manager. However, the scale still showed consistent relationships with extraversion (among other measures).

Of special interest in the Lennox and Wolfe scale is the "sensitivity to the expressive behaviour of others" factor. Briggs et al. (1980) have pointed out that the SMS has only one item that appears to measure this important component of self-monitoring. Therefore, this factor may fill a gap in the measurement of self-monitoring. Unfortunately, however, an adequate assessment of the contribution of this factor was not possible with the measures that were used in this study. Of special interest to an examination of this factor in the future will be: (a) correlations with other sensitivity measures; and especially (b) demonstrations of sensitivity differences

between those scoring high on this factor and those scoring low.

Perhaps the most pivotal issue in addressing the construct validity of these two Self-Monitoring Scales is that of homogeneity versus heterogeneity. The SMS is a heterogeneous test. It contains a variety of items that produce three, relatively weak, factors and somewhat low internal consistency findings. On the other hand, the LWSMS, is a highly homogeneous test. It contains items that are basically subtle rewordings of two narrow themes (control over self-presentation and sensitivity to others), and produces two strong factors and high internal consistency findings.

As Anastasi (1976) points out, because total scores are not summed across a range of item content (i.e., acting items, extraversion items, other-directedness items), total test scores will be "less ambiguous when derived from relatively homogeneous tests" (p. 116). However, it is important, at this point, to note the artificiality that psychometric engineering can produce. If a test constructor creates a test consisting of series of narrowly restated questions, this test will produce high inter-item and item-total correlations. This, in turn, will result in high internal consistency statistics (as well as other reliability measures), and high factor loadings in a factor analysis. These high factor loadings will result (if the

items are selected around themes) in a robust factor solution that accounts for a great deal of total variance. Therefore, it will appear that this test constructor has produced a psychometrically "pure" and robust test. However, this test will only tap a narrowly defined construct. It is, of course, the potential artificiality of the result of test construction that makes the ongoing process of construct validation (with external tests, experimental measures, other paradigms, etc.) especially relevant.

The important issue here, though, is not whether it is "better" to construct a homogeneous or heterogeneous test. The important issue is whether self-monitoring is itself a homogeneous or heterogeneous construct. Although a homogeneous test is less ambiguous to interpret, it will not adequately measure a heterogeneous construct (Anastasi, 1976). Therefore, the immediate question for those who want to assess self-monitoring becomes: "Who is the high self-monitoring individual? For those who see the HSM individual solely as a confident impression manager, the Lennox and Wolfe scale is the most appropriate. On the other hand, those who see the HSM individual as an actor, extravert, and someone concerned about the opinions of others, the Snyder scale is most appropriate.

What is Self-Monitoring?

Most of the inquiry into the nature of the SMS itself has been motivated by attempts to contrast characteristics of the scale with early statements (Snyder & Gangestad, 1986). Investigators such as Briggs and colleagues have demonstrated the presence of three independent factors and have argued that these factors contradict the intent of the self-monitoring construct. However, as Snyder and Gangestad (1986) have pointed out, the construct of self-monitoring itself is evolving. In fact, as the contrast between the two Self-Monitoring Scales highlights, the true nature of self-monitoring may never have been as unclear as it is now. Snyder and Gangestad (1986) have gone so far as to encourage the examination of relationships between criterion variables and scores on the three factors, in order to sort out the relationships (and non-relationships) between self-monitoring and other measures.

It is interesting to note the remarkable similarity between the potential evolution in self-monitoring from repeated criticisms of the SMS to a renewed examination of the construct, to a similar evolution that has occurred (over several years) in intelligence testing (cf. Pellegrino & Glaser, 1979). In intelligence testing, controversy over the "correct" factor structure of the measurement scales has given way to more theoretically-guided attempts to understand the "mental activities that contribute to

individual differences as measured by psychometric instruments" (Pellegrino & Glaser, 1979, p. 188). One approach within this field is the "cognitive correlates" approach. In this approach questions such as "What does it mean to score high on verbal scales?" are being asked and the answers are being sought in examinations of relationships between the experimental tasks and paradigms used to examine cognition, and group differences on the intelligence tests.

It appears that it is now time for the investigation of self-monitoring to place a primary emphasis on the question of "What does it mean to be a high self-monitoring individual?" It is not the issues of the presence of a factor structure or intercorrelations that are most important. Rather, it is what these external relationships can tell us about the nature of self-monitoring that is important. As Campbell and Fiske (1959) have pointed out: "The failure to demonstrate convergence may lead to conceptual developments rather than to the abandonment of a test" (p. 104).

The findings that have been reported here lead to a number of questions about the nature of self-monitoring. For example, although confidence is clearly a component of the HSM individual's self-presentation (the result of self-monitoring), it is less clear whether or not there is an anxiety component to the motivation to manage impressions

(the precursor of self-monitoring). It is entirely likely that HSM individuals are anxious about the image they present. If this is the case and we remove this component from the measurement of self-monitoring (as Lennox and Wolfe have), we will not accurately tap the construct. Other questions include: "What is the nature of the relationship between self-monitoring and the Lie Scale?", and "What are the shared characteristics of the Machiavellian and the high self-monitoring individual?" By addressing the "attitudinal and behavioural correlates" of self-monitoring it becomes possible to clarify the nature of the construct; to define the characteristics of the HSM individual. This is clearly more productive than an attempt to modify the measurement of self-monitoring to conform to early notions of its nature.

What recommendations can be provided for those who wish to assess the self-monitoring construct? For those who want to measure self-monitoring a la Snyder, the findings here indicate that the RSMS does, in fact, represent an improvement over the original SMS.

However, for those who wish to employ the more homogeneous measure of Lennox and Wolfe much more caution must be exercised. Cronbach and Meehl (1955) have pointed out that the individual who challenges an established measure must "validate the test for himself, if he wishes to show that it represents the construct as he defines it" (p.

291). A related point by Snyder and Gangestad (1986) is that:

> Any attempted reformulation must not ignore the accumulated body of confirmatory evidence, in addition to accounting for the anomalous results. (p. 135)

In fact, there is a considerable body of support showing that differences on self-monitoring are related to a variety of meaningful differences on a range of behavioural measures. On the other hand, the Lennox and Wolfe scale has been criticized for having: (a) a narrow range of restated questions; (b) only two reverse scored items, which may increase acquiescent responding; and (c) some poorly written items (Snyder & Gangestad, 1986).

In the end, the strategy for selection of a Self-Monitoring Scale should still be guided by the need for an ongoing examination of the construct. Therefore, given the body of literature employing the SMS, further studies could best make a contribution to self-monitoring research by also using the SMS (actually, the RSMS). Not only should the RSMS be used to select HSM and LSM individuals but investigators should examine relationships between their dependent measures and both the total and factor scores of the scale.

Optimally, however, the LWSMS should be administered as well. This recommendation is provided for three reasons: (1) the addition of a further method for assessing

self-monitoring may help to clarify consistent relationships with the construct (Campbell & Fiske, 1959); (2) the items from the sensitivity factor of the LWSMS may help to clarify this potential component of self-monitoring; and (3) regardless of the support for the SMS, the issue of the homo- versus heterogeneity of the self-monitoring construct is still open to question.

Thus, again, the emphasis should be not be on the psychometric characteristics of the Self-Monitoring Scales but on how we can now best define and delineate the self-monitoring construct.

STUDY 2

During the early development of self-monitoring theory, Snyder (1979) discussed the components of the HSM individual's ability to monitor social information (or self-monitoring sensitivity). A portion of this discussion focused on the findings of Berscheid, Graziano, Monson, and Dermer (1976). These findings showed that HSM individuals were more likely to remember accurately information about a person they had observed and with whom they anticipated interacting than were LSM individuals. In discussing these results, Snyder stated:

> Evidently, for high self-monitoring individuals, the prospect of social interaction may initiate perceptual and cognitive processes that predictably channel the search for potentially relevant information, the interpretation of that information, and the form and substance of the images constructed of those with whom they anticipate further social contact. (p. 99)

The notion that HSM individuals may engage different perceptual and cognitive processes than LSM individuals is very important. Most notably this suggestion departs from repeated demonstrations that HSM individuals appear to acquire more information about others than do LSM individuals (cf. Snyder, 1974, 1979). Rather than identifying the <u>outcomes</u> of different self-monitoring processes, the examination of perceptual and cognitive differences addresses the steps leading to these outcomes; the nature of self-monitoring <u>processes</u> themselves.

Specifically, this level of analysis permits an identification of truly fundamental differences in the information processing strategies of HSM and LSM individuals. Identification of such differences can also provide insight into the development of behavioural differences between HSM and LSM individuals.

Unfortunately, the existence of different perceptual or cognitive processes (between HSM and LSM individuals) has not been verified by further research. At this point, it is not clear what is different about how HSM and LSM individuals select and process information about others. Therefore, the intent of Study 2 was to examine the early stages of the processing of social information for differences in the perceptual/cognitive processes of HSM and LSM individuals (including differences resulting from the prospect of social interaction).

Application of the concept of selective attention has been an effective means of addressing social psychological topics such as this (e.g., Bargh, 1982). Presumably, people are continually bombarded with information. Because the organism is incapable of processing all of this information, mechanisms are in place for the selection of relevant information for possible encoding and storage. Especially in the context of the complex social environment, it is important to understand the mechanisms of selective

attention in order to assess the possible influence of social constructs or categories (Bargh, 1982).

The dichotic listening method has been useful in assessing selective attention to social information. Using this method, the subject is simultaneously presented with different auditory information (e.g., words) to each ear. The subject's task is to shadow (repeat out loud) the information in one ear while ignoring the information coming into the other ear. The measure of interest here is the degree to which the information in the nonshadowed ear enters awareness (e.g., by causing shadowing errors). If social information presented to the nonshadowed ear affects the cognitive processing of shadowed information, there is then evidence that this social information is activating relevant knowledge structures in the individual.

Using this paradigm, Nielsen and Sarason (1981) presented word pairs to their subjects. The shadowed channel contained the same neutral words presented in the same order for all subjects. On the other hand, the ignored channel had a set of unique words, half of which were their target words (e.g., words relevant to university life, sexually explicit words). It was found that most of the information presented to the ignored channel never entered awareness. However, taboo words presented to the ignored channel did enter awareness; some subjects were certain they heard one or more taboo words, and shadowing errors

increased during and after the presentation of taboo words. To the authors, these findings indicated that both semantic and emotional analysis could occur preattentively.

Bargh (1982) introduced a more sensitive measure of the degree of attention given to the nonshadowed channel. Presumably, items presented to the nonshadowed channel can differ in the strength of the attentional response they elicit. The stronger this response is, the more attentional resources that must be allocated to the shadowed channel to prevent nonshadowed material from disrupting focused attention. Thus, while performing the shadowing task, subjects were periodically presented with a probe stimulus (light) to which they had to respond by pressing a button as fast as possible. Independence- schematics (subjects for whom the trait of independence was central to their self-description), and aschematics, were studied. It was predicted that the probe reaction times would be relatively shorter when the relevant adjectives (independence trait terms) were presented to the shadowed ear but relatively longer when the relevant adjectives were presented to the nonshadowed ear. Bargh found that all the awareness measures indicated that subjects had not been aware of the information presented to the nonshadowed channel. As predicted, though, schematics took less time than aschematics to respond to the probe when attending to the independence-related adjectives, but relatively more time

when the independence information was presented to the nonshadowed channel. This indicated that "automatic" processing of self-relevant information facilitated the shadowing task when it was on the shadowed channel and inhibited performance when it was on the rejected channel. Bargh stated that the findings suggested that attentional and automatic processes operate in much the same way for social information as they do for nonsocial information.

Based on Bargh's study, Study 2 was designed to employ the dichotic listening paradigm to address self-monitoring differences in attention to social information. Both HSM and LSM individuals shadowed neutral words (i.e., nouns) ostensibly taken from a conversation about a student assistant. The nonshadowed channel contained three blocks of words, also ostensibly taken from the same conversation. One block contained further neutral words (e.g., savings). The two remaining blocks contained positive and negative trait terms describing the student assistant. One block contained positive words (e.g., pleasant) and the remaining block contained negative words (e.g., selfish). Further, half of both the HSM and LSM individuals were led to believe that they would later meet the target person (a student assistant) that the conversation was about, and half were told that it would not be possible to meet this person. Measures of shadowing performance and subsequent memory for the nonshadowed words were collected to assess awareness of

the nonshadowed material. In addition, subjects' reaction times to two probe stimuli presented during each block were collected to assess the relative amount of attentional resources that had to be allocated to the shadowed channel to ignore the nonshadowed information. Finally, a brief questionnaire was administered following the first block of nonshadowed material to assess the impact that information in the nonshadowed channel had on subjects' impressions of the target person.

The study was designed to address differences between HSM and LSM individuals with regard to three issues: (a) awareness of the material in the nonshadowed channel; (b) effects of material in the nonshadowed channel on resources allocated to the shadowed channel (reaction times); and (c) effects of material in the nonshadowed channel on impressions of the target person. The relationships between the behavioural measures of this study and responses to the scales used in Study 1 were also examined.

There were two measures of awareness of nonshadowed material - the recognition test and shadowing performance. It was predicted that recognition performance would be very poor, regardless of condition. Further, based on Bargh's results, it was considered unlikely that measures of shadowing performance would differ between conditions. However, it was also considered possible that any

attentional response to relevant nonshadowed material may be sufficiently strong for HSM individuals to be aware of some of the nonshadowed material (i.e., as measured by recognition and shadowing errors).

The major dependent measure of interest was subjects' reaction times to the probe stimulus. The reaction time measure was intended to assess the allocation of additional resources that relevant material in the nonshadowed channel could produce. "Relevant" material was defined as words (both positive and negative trait terms) that were potentially more informative about the target person than were relatively uninformative neutral words. It was predicted that the positive and negative words would lead to an attentional response to the nonshadowed material by the HSM individuals, thereby increasing the difficulty of focusing on the shadowed material (the shadowing task), and increasing their reaction time to the probe stimulus.

Therefore, the major hypothesis was that for LSM individuals, probe reaction times would remain constant across valence of nonshadowed material, whereas HSM individuals would show longer reaction times than LSM individuals during the presentation of both positive and negative material on the nonshadowed channel. HSM individuals' reaction times during the presentation of neutral material on the nonshadowed channel was expected to be similar to those of the LSM individuals. In other words,

it was predicted that the reaction times would show a self-monitoring X valence of nonshadowed material interaction.

However, it was predicted that this pattern of results would occur primarily when subjects believed they would later meet the target person. The expectation was that under these circumstances the nonshadowed material would be of greater potential relevance to the HSM individual, would be harder to ignore while shadowing, and would produce a greater draw on attentional resources (longer reaction times). Without the expectation of meeting the target person, it was predicted that the nonshadowed material would be less relevant to either LSM or HSM individuals, would be less likely to use resources that would make the shadowing task more difficult, and therefore would not result in different reaction times between HSM and LSM individuals. Thus, it was predicted that the self-monitoring X valence interaction would be qualified by a higher-order interaction with the expectation of meeting the target person.

The other major dependent measure was the subjects' impressions (e.g., assessment of likability) of the target person following the first block (valence) of nonshadowed material. It was predicted that LSM individuals would express neutral impressions of the target person, regardless of the valence of the nonshadowed material. In contrast, it was predicted that HSM individuals would have more negative

impressions than LSM individuals following exposure to negative nonshadowed content, similar impressions to LSM individuals following neutral content, and more positive impressions following positive nonshadowed channel content. As was the case for the reaction time measure, it was further predicted that this interaction would be qualified by a higher-order interaction involving the expectation of meeting the target person. Differences between the impressions of LSM and HSM individuals were expected to occur primarily when the subjects expected to meet the target person. Both HSM and LSM individuals impressions were expected to be neutral when it was clear that the target person would not be met. Thus, the impression measures were also hypothesized to show a self-monitoring X nonshadowed valence interaction, and a further, higher-order interaction with the expectation of meeting the target person.

Therefore, it was predicted that the reaction time and impression findings would show not only that HSM individuals are more sensitive to social information and orient to its presence but that they also automatically incorporate this information into the formation of their attitudes toward the target person. These findings were intended to support the notion of a fundamentally greater sensitivity on the part of HSM individuals to information about other individuals. Furthermore, correlations between the dependent measures of

this study and the measures of Study 1 (including the total and subscale scores of the SMS and RSMS) were calculated to explore the nature of the sensitivity component of self-monitoring.

Method

Design

The design was a 2 (high versus low self-monitoring) X 2 (expectation of meeting the target versus no such expectation) X 3 (positive, neutral, or negative valence of nonshadowed items) fully-crossed factorial. Only the final factor was within-subjects. The repeated dependent measures were shadowing performance (e.g., errors) and reaction times to the probe stimulus (probe RTs). Other measures included subjects' ratings of the target person, and a recognition memory test for nonshadowed material.

The ear to which shadowed material was presented was also counterbalanced. Within each condition, an approximately equal number of subjects shadowed material presented to the left versus the right ear. This counterbalancing was performed to distribute evenly any possible effects of laterality.

The order of presentation of the three blocks of nonshadowed material (positive, neutral, and negative words) was also counterbalanced. There were six orders of the three valences (+/N/-, +/-/N, N/+/-, N/-/+, -/N/+, -/+/N), which were counterbalanced within each condition to

distribute any effects of the material in the first nonshadowed block across both valences of the remaining material.

Subjects

Subjects were 120 undergraduate students who participated as an option in partial fulfillment of an introductory psychology course requirement. Of these subjects, 84 were female and 36 were male (21 females and 9 males in all between-subjects conditions). This distribution of females and males (70%/30%) was similar to the distribution shown in the original population (61%/39%) from which subjects were selected. Data were collected from an additional 5 subjects but were not included in data analyses. These subjects were excluded for the following reasons: (a) impaired hearing (1); (b) inability to shadow (1); and (c) excessive missing probe reaction times (3). These exclusions were unrelated to condition.

Two groups of subjects were selected on the basis of their responses to the original SMS (Snyder, 1974), administered during the previous academic term (Study 1). HSM individuals were defined as those in the upper 25% of the distribution (those scoring > 15). LSM individuals were selected as those in the lower 25% of the distribution (those scoring < 10). In the final sample of subjects, the mean self-monitoring score for HSM individuals was 17.7 (SD

= 1.8). The mean score for LSM individuals was 7.9 (SD = 1.4).

On the basis of findings from Study 1, it was suggested that the RSMS (Gangestad & Snyder, 1985b) should be used in further investigations of the construct. In addition, given the focus of Study 2 on sensitivity to social information, selection based (at least in part) on the sensitivity factor of the LWSMS may appear logical. However, at the time subjects were being selected for Study 2, the relative merit of the RSMS and LWSMS had not been assessed. Further, even at the conclusion of the analysis of data from Study 1, the value of the sensitivity factor of the LWSMS remained unclear. Therefore, HSM and LSM individuals for Study 2 were selected on the basis of the original SMS.

Apparatus and Materials

Stimulus tapes. Six blocks of 30 words were selected as stimulus words. One block of words consisted of "negative" words, one block consisted of "positive" words, and four blocks consisted of "neutral" words. Negative and positive words were selected from trait adjectives used by Anderson (1968) in impression formation research. The negative words selected were one and two-syllable adjectives with mean "likableness" ratings of 2.0 or less (on a scale of 0 to 6). The positive words selected were one and two-syllable adjectives with mean likableness ratings of 4.0 or higher (see Appendix D for the words selected).

Neutral words consisted of one and two-syllable non-adjectives (primarily nouns) selected from the word frequency norms of Carroll, Davies, and Richman (1971). These words were selected to be nondiagnostic of the target's attributes. Also, words were selected that could occur in a discussion within the context of a psychology experiment (in keeping with the cover story).

From a pool of negative, positive, and neutral words, the blocks of 30 items were selected such that they were matched on the basis of word frequency (Carroll et al., 1971). The primary constraint in the selection of items was the much lower word frequency of trait adjectives, especially negative trait adjectives. Mean estimated frequency per million words for each block ranged (across blocks) from 9.0 to 10.0, $F(5,174) < 1$. Three blocks of neutral items were recorded as the material to be shadowed. The remaining three blocks of items (negative, neutral, and positive) were recorded as the nonshadowed material. In addition to the stimulus words, 2 matched blocks of 20 high frequency nouns were selected as practice words. High frequency nouns were selected as practice items to facilitate acquisition of the shadowing task.

For recording, each 30 item block was divided into two sets of 15 items. During recording, the shadowed words were recorded in a male voice, while the nonshadowed words were recorded in a female voice. The voices of different genders

were used to make it easier to distinguish between the two channels. Each channel was recorded onto a master tape by having the male or female read the stimulus words in response to a light flashing every 750 msec. A 4500 msec pause was placed between each set of 15 words to reduce the possibility of fatigue during shadowing. These master tapes were then re-recorded onto different channels of stereo cassette tapes. During re-recording, care was taken to synchronize the shadowed and nonshadowed material such that items were presented in pairs (one shadowed item, one nonshadowed item). This was to ensure that nonshadowed material would not be heard during pauses in the shadowed material. In addition, sound levels were controlled so that there was minimal fluctuation both between and within channels. Finally, a short warning tone was inserted at the beginning of each set of items on the shadowed channel.

In total, six stimulus tapes were made, each lasting for approximately two minutes. Each tape began with the same 20 pairs of practice items. Practice items were used to permit subjects to adapt to the novel task, and allow them a few seconds to focus their attention on the shadowed ear (Bargh, 1982). As well, the order of presentation of the shadowed material was the same on each tape. Across the six tapes, each possible order of the three blocks of nonshadowed material was produced. As a final precaution, some of the tapes were played using the experimental

apparatus with the headphones connected to a sound level meter. This permitted further calibration of the sound levels so that both channels were matched at a comfortable 70 (+/- 3) decibels.

Apparatus. Stimulus words were presented over Koss Pro 4AAA headphones connected to a B.I.C. T3 cassette deck and Sanyo amplifier. Laterality (the ear shadowed) was varied by placing the headphones on the subject with the nonshadowed material presenting to the left or right ear (with nonshadowed material presented to the other ear). A further set of headphones permitted the experimenter to monitor the shadowed words as they were presented to the subject. During the session, shadowing was recorded by a microphone placed in front of the subject, and these tapes were retained for independent coding of shadowing performance.

During each block of items, two reaction times (RTs) were collected. The RT probes were presented by the experimenter who activated the apparatus according to a predetermined random schedule. These RT probes consisted of a digital picture of two males presented on a computer screen in front of the subject (and on a separate screen in front of the experimenter). Subjects responded to the probes by pressing a hand switch that removed the probe from the screen. Both presentation of the RT probe and

collection/storage of RTs was performed by a Apple II+ computer.

Impressions. Following the first block of shadowing, subjects were given short questionnaire that asked them to rate their "first impressions" of the target person the stimulus words were describing (see Appendix E). Specifically, subjects were asked to rate how likable, socially competent, friendly, bright, and moody the target person was. In addition, they were also asked to rate how much they would "like to meet" this target person. All six ratings were made on a 7-point scale where a rating of 1 was negative (e.g., "not likable") and a rating of 7 was positive (e.g., "very likable"). None of the traits to be rated appeared at any other point in the session (e.g., on the stimulus tapes, recognition test, etc.). The impression questionnaire was kept brief to minimize any disturbance to the shadowing task, and to appear face valid as a measure of first impressions.

Recognition test. Near the end of the session, subjects were given a recognition test of memory for the material that was presented on the nonshadowed channel (see Appendix F). In constructing the test, 10 target items were randomly selected from the 30 items in each nonshadowed block (negative, neutral, positive). In addition, 10 words of each valence were selected as distractors. These distractors had not previously been presented on either the

shadowed or nonshadowed channel, and were matched to the target words on the basis of valence and word frequency.

Thus, the recognition test consisted of a randomized list of 60 words, half of which had been presented on the nonshadowed channel, and half which had not previously been presented. Subjects were asked to rate each of the words as to how confident they were that they had or had not heard the words spoken by the female (nonshadowed) voice. These confidence ratings were made on a 6-point scale, from 1 ("certain did not hear") to 6 ("certain heard"). Subjects were not provided with a midpoint on the rating scale, and thus had to make a forced-choice. This scale was selected to increase the probability that a faint recognition of an item would be reported. However, some subjects were resistant to responding on a scale that did not permit them to indicate that they didn't know. These subjects were encouraged to guess and/or use the rating points closest to the center (3 and 4).

Procedure

After arriving at the waiting area, subjects were shown into the experimental room and seated. Their student identification number was used to verify that they had been pretested, and to ascertain their self-monitoring condition. Subjects were then randomly assigned to a condition within their level of self-monitoring. Thus, subjects were randomly assigned to a condition where they were or were not

led to expect that they would meet the target person. Also, at this point it was determined which tape order they would receive, and whether they would shadow material over their left or right ear.

Subjects were first presented with the general cover story (see Appendix G for a copy of the complete script). The research was described as being concerned with the "cocktail party phenomenon". This phenomenon was explained as the ability of individuals to pick out a conversation and follow it, even in a room where there are a number of other conversations going on at the same time. It was further explained (accurately) that phenomena of this sort have been used as support for the presence of a "cognitive filter" (i.e., selective attention). Finally, the experimenter explained that in this particular research:

> We are interested particularly in how people sort out information about other people. So, to go back to the cocktail party phenomenon, we are interested in what kind of things people can find out about other individuals by picking out a conversation in a noisy environment.

Next, the experimenter explained the dichotic listening and probe RT tasks. The task was presented as a simulation of the cocktail party phenomenon. Subjects were told to repeat the words spoken by the male voice (over the left/right ear) into the microphone in front of them, and ignore the words spoken by the female voice. However, it was suggested that in other sessions, it may be the female

voice that would be shadowed. The intention of this suggestion was to imply that the material on both channels was relevant. In addition, the probe RT task was explained. The occurrence of the picture on the screen was demonstrated, as was pressing the button to remove the picture. It was explained that subjects should press the button quickly but consider the shadowing of the words as more important. The probe RT task was described as a simulation of an interruption that could occur while someone is trying to follow a conversation.

Following the first portion of the cover story, subjects were given the opportunity to practice the shadowing and RT tasks. First, the experimenter placed the headphones on the subject with the shadowed ear corresponding to the laterality condition. Then, subjects were presented with the two sets of 20 word pairs. These sets were repeated until the subject could accurately perform the shadowing task. Accurate performance was defined as either error-free shadowing of the practice items, or performance marred only by consistent misunderstandings and/or mispronunciations of selected words. For subjects who had difficulty performing the task, the tape was stopped and they were given coaching statements (e.g., "Be sure to ignore the female voice."). Also during practice, the RT probe was presented twice to familiarize subjects with this task.

At the conclusion of the practice session, subjects were given the remainder of the cover story. The experimenter explained that two lists of words had been taken from a conversation that had occurred in another experiment. At this point, the meet versus not meet manipulation was delivered. Subjects were told that in the previous experiment, research participants had interacted with either "one of our student assistants whom you'll meet toward the end of today's session" (meet condition), or "a student assistant who's now at UBC" (not meet condition). The experimenter went on to explain that the participants who had interacted with the student assistant had been asked to describe this person to a group of fellow participants. It was from one of these conversations that the lists of (shadowed/nonshadowed) words had been selected. However, it was further explained that the lists contained:

> Not only words pertaining to this student assistant but also words from other things the group talked about, like their schoolwork for example.

The intent of this statement was to provide an explanation for the neutral words the subjects would be shadowing. As was the case for the practice material, it was again suggested that, in other sessions, the female voice was shadowed. In other words, it was suggested that both channels, in fact, contained relevant material.

After reminding subjects of the task, the presentation of the cover story concluded with a repeated emphasis of the meet/not meet manipulation. The final statement by the experimenter was either:

> Later in this session you'll get a chance to work with the student assistant that is described in these lists (meet).

or:

> Some people wonder about the possibility of meeting the person they're hearing described on the tape. Since this student assistant is now studying at another university, this is not possible here (not meet).

The intent of this manipulation was to leave the subject with one of two different expectations. One expectation was that they would not only meet the student assistant but would have to work with this person. Therefore, it was possible that these subjects (especially HSM individuals) could be more motivated to "figure out" the target person. In the other conditions, it was intended that subjects would not expect to meet the student assistant and moreover, would believe that there was no possibility of meeting this person. Therefore, there was no reason for these subjects to be particularly concerned with the target person.

Following the second portion of the cover story, subjects were presented with the first block of word pairs. During the subject's shadowing of the male voice, two RT probes were presented randomly. The only constraint on the random presentation of probes was that they not be presented

within two items of pauses or other RT probes. At the conclusion of the first block, the tape was stopped and subjects were asked to rate their first impressions of the target person. Subjects were asked to do their best, and not to spend too much time on the ratings. The experimenter also explained that their responses were confidential.

When the subjects had completed the first impressions questionnaire, the remaining two blocks of items were presented. During each block, two further RT probes were randomly presented. At the conclusion of the final block the subjects were asked to complete the recognition test. It was emphasized both verbally and on the test itself that they were being asked about the female (nonshadowed) voice. When the subjects had completed the recognition test, they were probed for suspiciousness, fully debriefed (without revealing their self-monitoring score), thanked, and dismissed.

Results

Manipulation Check

At the end of the recognition questionnaire, subjects read the following statement:

> In some conditions of this experiment, the participants meet the student assistant described on the tape. In other conditions they don't. Please tell us whether or not you will be meeting this person.

Subjects responded to this statement by circling "YES" or "NO". This question was intended as a check on whether the subjects had acquired the appropriate expectation of meeting or not meeting the target person.

Answers to this question were entered into a Chi-Square analysis. It was found that of those who had been told they would meet the target person, 98.3% said at the end of the session that they would, while only 1.7% (1 person) said they would not. Of those who had been told that they would not meet the target person, 96.5% indicated that they would not meet this person, while only 3.5% (2 cases) indicated that they would, Chi-Square(1) = 105.3, $p < .001$.

These findings indicated that subjects had acquired the desired expectations from the meet/not meet manipulation. In fact, of anecdotal interest was the need to convince several of the subjects in the "meet" conditions that the target person did not exist and they would not be meeting him or her.

Awareness Measures

Recognition test. As stated by Bargh (1982), accurate recognition of material presented to the nonshadowed ear would indicate that there had been conscious processing (and storage) of that information. Thus, for each subject, the frequency of both "hits" and "false alarms" was calculated. Hits were defined as confidence ratings in the "heard" portion of the scale (4, 5, or 6) for items that had been presented. False alarms were defined as confidence ratings also in this range of the scale but for items that had not been presented (distractors).

To examine the accuracy of subjects' recognition of the nonshadowed material, hits and false alarms for each subject were entered into a 2 (self-monitoring) X 2 (expectation to meet) X 2 (hits/false alarms) analysis of variance, with repeated measures on the final factor. This analysis revealed only a main effect of hits/false alarms, $F(1,116) = 17.07$, $p < .01$. Across all subjects, there were significantly more hits (8.3, or 27.6%) than false alarms (7.05 or 23.5%). One method of determining recognition accuracy is by entering the percentage of hits and false alarms in the following formula: Accuracy = Hits - False Alarms. Using this formula, subjects' accuracy was only 4.1%. Although subjects made very few confident ratings (that they had heard an item), their ratings did indicate a

marginal recognition (awareness) of the nonshadowed material.

Subjects' hits and false alarms were further divided by the valence of the items (negative, neutral, or positive). To examine the possible effects of both item valence and laterality, these values were entered into a 2 (self-monitoring) X 2 (expectation to meet) X 2 (laterality) X 2 (hits/false alarms) X 3 (valence) analysis of variance, with repeated measures on the latter two factors. In addition to the main effect of hits/false alarms, two further effects were revealed. First, a main effect of valence was revealed, $F(2,224) = 6.73$, $p < .01$. Across all subjects the number of hits/false alarms varied depending upon whether the item being rated was positive ($M = 2.9$), negative ($M = 2.5$), or neutral ($M = 2.2$). A Newman-Keuls analysis showed that all three means were significantly different from each other ($p < .05$). Since these means are across both hits and false alarms, they represent the mean frequency of confident ratings (4, 5, or 6) of all recognition items. Thus, this effect indicates that subjects were slightly more likely to feel that they had previously heard a positive or negative item than they were to feel they had heard a neutral item. Further, they were more likely to feel they had heard a positive item than a negative item. This effect probably represents the higher salience of affect-laden (positive and negative) items.

The second effect revealed by this analysis was a meet X laterality X hits/false alarms X valence interaction, $F(2,224) = 4.08$, $p < .05$. This interaction appears largely attributable to the increased accuracy (11.7%) for positive items (only) presented to the nonshadowed left ear when subjects expected to meet the target person. There is no clear explanation for this surprising finding. Finally, there were no main effects or interactions involving self-monitoring.

Shadowing performance. Although subjects may not have recognized many of the nonshadowed stimuli, this does not unambiguously indicate the level of awareness of them at the time of presentation. It is possible that one could be momentarily aware of stimuli but not remember them (Bargh, 1982; Holender, 1986). Thus, shadowing performance (especially errors) is a more sensitive measure of moment-to-moment awareness of the nonshadowed material.

The tapes of subjects' shadowing performance were coded by an independent rater who remained blind to subjects' conditions. Initially, shadowing performance during practice and the three blocks of shadowing was coded into the following categories: (a) items correctly repeated; (b) items not repeated (omissions); (c) repeating the nonshadowed word of a word pair (simultaneous intrusion); (d) repeating an item that had previously been presented on the nonshadowed channel (delayed intrusion); (e) repeating

any other word of positive or negative valence (affect laden intrusion); and (f) other errors. However, analysis of these data showed that subjects were, on the whole, quite proficient at shadowing and made few errors. Therefore, most of the categorized errors occurred at too low a frequency for meaningful analysis. As a result, it was decided to enter only subjects' correct responses and total errors into the analyses. Both correct responses and errors were entered because of periodic cases where subjects' number of correct and number of incorrect responses did not sum to the number of items shadowed (e.g., when a subject made multiple errors when trying to pronounce a word). However, examination of the findings showed that subjects' errors did, in fact, show a pattern reciprocal to their correct performance. Therefore, because errors are considered as a potential indicator of shifts in attention to the nonshadowed channel (Bargh, 1982), only the results of the error analyses are reported.

The first analysis of shadowing performance centered on subjects' performance during practice. Practice data were analyzed to examine whether there were any prior group differences in shadowing ability. For each subject, the number of passes through the practice material until accurate performance and the mean errors across all passes were entered into separate 2 (self-monitoring) X 2 (expectation to meet) analyses of variance. The findings

failed to show any significant main effects or interactions in either of the analyses (highest $F(1,115) = 3.56$, $p > .05$). However, there were two marginal effects revealed. First, subjects required marginally fewer passes to acquire the task when they expected to meet the target person ($M = 2.7$) than when they did not ($M = 3.1$), $F(1,115) = 3.56$, $p = .06$. Second, HSM subjects made marginally fewer errors (M 1.9) than LSM subjects ($M = 2.4$), $F(1,115) = 2.88$, $p = .09$.

To assess the effect of laterality in the practice data, both passes and mean errors were entered into further 2 (self-monitoring) X 2 (expectation to meet) X 2 (laterality) analyses of variance. Both analyses revealed an effect of laterality. Subjects required fewer passes through the practice items when they shadowed the right ear ($M = 2.6$) than then they shadowed the left ear ($M = 3.2$), $F(1,111) = 7.89$, $p < .01$. Subjects also made fewer errors per pass when they shadowed the right ear ($M = 1.7$) than when they shadowed the left ear (M 2.6), $F(1,110) = 9.05$, $p < .01$. Thus, subjects found it easier to shadow words presented to the right ear. On average, however, subjects required 2.9 presentations of the 20 practice pairs to attain accurate shadowing performance. During each practice trial, subjects made an average of 17.9 (89.5%) correct responses, and 2.1 (10.5%) errors. Even after exposure to a

very novel (and somewhat difficult) task, subjects performed very well.

The data of primary interest were subjects' frequency of errors during shadowing. Errors were entered into a 2 (self-monitoring) X 2 (expectation to meet) X 3 (valence) analysis of variance, with repeated measures on the final factor. This analysis revealed a main effect of the meet manipulation, $F(1,115) = 8.28$, $p < .01$. Subjects who expected to meet the target person made significantly fewer shadowing errors than subjects who did not expect to meet the target person.

However, the latter effect was qualified by a significant self-monitoring X meet interaction, $F(1,115) = 5.59$, $p < .05$. Table 18 shows the pattern of this interaction. HSM individuals showed little variation in their frequency of errors as a result of their expectation to meet or not meet the target person. On the other hand, LSM individuals made fewer errors when they expected to meet the target person than when they did not. A Newman-Keuls analysis confirmed that only the difference between expectation to meet conditions in the LSM individuals' errors (7.2%) was statistically significant.

This pattern of findings was not predicted. In fact, an increase in errors by the HSM individuals who expected to meet the target person (due to attempts to examine nonshadowed material) was considered more likely. However,

one possible explanation for this interaction is that LSM individuals were less motivated to perform the shadowing task when there was no clear reason to do so (i.e., when they were not going to meet the target person). On the other hand, the HSM individuals may have maintained more uniform performance across meet conditions because of their habitual (i.e., consistent) tendencies to monitor social information, or simply to try and perform well for the experimenter. In any case, all groups made relatively few errors during shadowing. As well, it is important to note that there were no statistically significant main effects or interactions involving the valence of the items. Therefore, neither HSM or LSM individuals showed any changes in their shadowing performance as a result of the valence of material being presented on the nonshadowed channel.

Table 18

Mean Shadowing Errors (Percent) as a Function of Self-Monitoring and Expectation to Meet Target Condition

	Expectation to Meet Target	
Self-Monitoring	Meet	Not Meet
High	3.1 (10.5%)$_{ab}$	3.4 (11.2%)$_{ab}$
Low	2.3 (7.7%)$_{a}$	4.5 (14.9%)$_{b}$

Note: Means that do not share a common subscript differ at $p < .05$.

To assess the role of laterality in shadowing performance, total shadowing errors were entered into a 2 (self-monitoring) X 2 (expectation to meet) X 2 (laterality) X 3 (valence) analysis of variance, with repeated measures on the final factor. This analysis revealed a significant main effect of laterality, $F(1,111) = 5.94$, $p < .05$. Subjects made significantly fewer errors when they shadowed material presented to the right ear ($M = 2.9$) than when the material was presented to the left ear ($M = 3.8$). This finding again indicates that subjects either found it easier to follow material presented to the right ear, or found it easier to ignore (nonshadowed) material presented to the left ear. Corteen (commentary in Holender, 1986) has also reported that (based on errors) right ear shadowing is significantly easier than left ear shadowing. Corteen explains this effect as resulting from the dominance of the left hemisphere in linguistic processing. Most importantly, however, there were no statistically significant interactions involving laterality.

To examine whether a priori differences in shadowing performance during practice had any effect on shadowing during the main session, shadowing errors were entered into separate 2 (self-monitoring) X 2 (expectation to meet) X 2 (laterality) X 3 (valence) analyses of covariance with passes and mean errors during practice as covariates. Inclusion of either of the covariates resulted only in the

removal of the laterality effect. This indicated that the laterality effect found during the main shadowing session was attributable to the fact that it is a priori easier to shadow with the right ear.

As Bargh (1982) points out, a certain number of shadowing errors is desirable in that they indicate that the shadowing task is sufficiently difficult to engage subjects' full attention. However, it remains difficult to assess whether shadowing errors are due to shifts in attention to the nonshadowed ear, or solely to the difficulty of the task (Bargh, 1982).

Taken together, however, both the recognition test findings and the shadowing performance findings provided evidence of the allocation of attentional resources to the nonshadowed channel. Recognition findings revealed a slight memory trace for the nonshadowed items. Shadowing errors can be used as a crude indication of shifts in attention to the nonshadowed channel. This measure, though equivocal, provided evidence of attentional shifts to the nonshadowed material. Thus, it appears that although the shadowing task successfully focussed the majority of subjects' attention on the shadowed words, some resources were allocated to the nonshadowed channel.

Amount of Processing

For the analyses of probe RTs, three RT values were entered for each subject; one for each block (negative,

neutral, and positive) of items. Each of these values consisted of the mean for the two RTs taken during each block. However, some subjects became sufficiently engrossed in the shadowing task that they did not notice the presentation of an RT probe. This resulted in some reaction times of up to several seconds. Therefore, prior to analysis of the probe RT data, the complete distribution of RTs was examined. It was found that this distribution had a mean of 642.053 msec, with a standard deviation of 813.360. To exclude excessively long RTs from analysis, RTs exceeding 3 SD's from the mean (3082.133 msec) were not included in subsequent analyses. This resulted in the deletion of 11 RTs (1.5%). In most of these cases, this deletion meant that one RT of the pair for any one block was deleted. For the subjects who had an excessively long RT deleted from a block, the remaining RT was substituted for the mean of the two RTs. In the case of four subjects, both RTs of one block were deleted, leaving missing data. It was possible to replace 3 of these 4 subjects.

It was predicted that HSM, but not LSM, individuals' performance on the probe RT task would be affected by the valence of the nonshadowed material. Specifically, it was predicted that HSM individuals' probe RTs would be longer than those of LSM individuals during the presentation of negative and positive (but not neutral) material on the nonshadowed channel. Based on this prediction, planned

comparisons between HSM and LSM individuals' RTs were conducted separately for probe RTs that had been collected during negative, neutral, and positive content, respectively. Because both between-subjects error (self-monitoring) and within-subjects error (valence) were involved in each comparison, the denominator of the *F* statistic for all contrasts to be reported here was formed by pooling the between-subjects and within-subjects mean square errors (Bargh, 1982; as per Winer, 1971). This resulted in a more conservative test of the comparisons.

Table 19 shows the means from the self-monitoring X valence conditions. This analysis revealed that RTs during negative nonshadowed content were significantly longer for HSM individuals (M = 602.72 msec) than for LSM individuals (M = 539.02), $F(1,345) = 4.00$, $p < .05$. However, differences in probe RTs during both neutral and positive material did not attain statistical significance, $Fs(1,345) < 1$.

Table 19

Planned Comparisons on Mean Probe Reaction Times as a Function of Self-Monitoring and Valence

	Valence of Nonshadowed Items		
Self-Monitoring	Negative	Neutral	Positive
High	602.72	544.57	541.70
Low	539.02	540.73	551.63
Pair-wise $F(1,345)$	4.00*	< 1	< 1

Note: (a) All values are in milliseconds.
(b) The planned comparisons were between the self-monitoring means (high and low) within each of the valence conditions.
(c) * $p < .05$.

It was further predicted that HSM individuals would have longer probe RTs during relevant material (negative and positive valence) primarily if they held the expectation that they were going to meet the target person. Smaller differences in probe RTs were expected when subjects held the expectation that they would not meet the target person. Based on this further prediction, planned comparisons between HSM and LSM individuals' RTs were conducted on probe RTs at each valence, within the meet conditions and the not meet conditions, respectively. All differences tested failed to achieve statistical significance (highest $F(1,345) = 3.04$, $p < .09$). A further comparison tested the

self-monitoring X meet interaction for negative material only. This analysis also indicated that subjects' probe RTs were not influenced by the meet manipulation, $F(1,345) < 1$.

Therefore, the probe RT predictions were supported in the case of negatively valenced content. HSM individuals took more time to respond to the probe RTs when negative material was being presented on the nonshadowed channel. However, this effect was not affected by HSM individuals' expectations about meeting the person who was ostensibly being described on the tape. Thus, HSM individuals shifted their attention to negative material on the nonshadowed channel regardless of whether or not they were going to meet the person described.

A 2 (self-monitoring) X 2 (expectation to meet) X 2 (laterality) X 3 (valence) analysis of variance with repeated measures on the final factor was conducted to assess any effects of laterality. This analysis revealed a main effect of laterality such that RTs were longer when the left ear was shadowed ($M = 576.81$) than when the right ear was shadowed ($M = 529.73$), $F(1,111) = 3.96$, $p < .05$. However, this effect was qualified by a self-monitoring X laterality interaction, $F(1,111) = 3.96$, $p < .05$. Table 20 shows the mean reaction times from this interaction. A further Newman-Keuls indicated that the longer RTs when the left ear was shadowed (and right ear nonshadowed) than when

the right ear was shadowed was significant only for HSM individuals ($p < .05$).

These laterality findings supplement those from the shadowing data. Analyses of the shadowing data showed that subjects made fewer errors when they repeated items presented to their right ear. These current findings indicate that subjects appeared more distracted, and therefore had higher RTs, when they had to ignore material presented to the right ear. For many subjects, it appears that their right ear was more sensitive to the material being presented. However, of special interest in the case of the probe RT findings, is the finding that only HSM individuals had more difficulty responding to the probe when nonshadowed material was presented to their right ear. The findings involving valence showed that HSM individuals were more sensitive to the kind of material (i.e., negative material in particular) presented on the nonshadowed channel than were LSM individuals. This self-monitoring X laterality interaction appears to increase the generality of the findings involving valence. Specifically, it appears that HSM individuals had more difficulty ignoring potentially relevant material when it was presented to their more sensitive (right) ear. On the other hand, this was not the case for LSM individuals.

Table 20

Mean Probe Reaction Times as a Function of Self-Monitoring and Ear Shadowed (Laterality)

	Ear Shadowed	
Self-Monitoring	Left	Right
High	607.03_{a}	512.67_{b}
Low	542.27_{ab}	545.13_{ab}

Note: Means that do not share a common subscript differ at $p < .05$.

Impressions of the Target Person

A self-monitoring X valence (of nonshadowed material presented during the first block) interaction was predicted for subjects' impressions of the target person. Specifically, it was expected that HSM, but not LSM, individuals' impressions of the target person would be affected by negative or positive content in the nonshadowed channel. It was further predicted that this would occur primarily when the subjects expected to subsequently meet the target person. To test these predictions, subjects' six ratings, as well as a sum of these ratings, were entered into a series of planned comparisons. All ratings were made on scales where a low rating indicated a negative impression (e.g., "not likable", "very moody") and a high rating indicated a positive impression (e.g., "very likable", "not

moody"). Therefore, it was not necessary to transform any of the scales prior to forming a sum. These comparisons examined differences between the ratings of HSM and LSM individuals at each valence of nonshadowed content. Further, comparisons were conducted on the mean ratings within the higher-order self-monitoring X meet X valence interaction.

In total, these comparisons failed to provide any substantial support for the predictions. Neither HSM or LSM individuals' ratings were reliably affected by the content of the nonshadowed channel, or by the expectation of meeting the target person. Of the many comparisons, only two achieved statistical significance. Subjects' ratings of how "bright" the target person was revealed that HSM individuals rated this person more favorably ($M = 5.6$) than LSM individuals ($M = 4.6$) following the presentation of negative nonshadowed material, $F(1,108) = 4.03$, $p < .05$. This effect occurred only within the meet condition but was in the reverse direction to what had been predicted. Subjects' ratings of how much they would like to meet the target person showed that HSM individuals rated this person more favorably ($M = 5.0$) than LSM individuals ($M = 3.8$) following the presentation of neutral nonshadowed material, $F(1,108) = 5.69$, $p < .05$. This effect was achieved following exposure to neutral content and within a not meet condition, contrary to predictions. Given the lack of a meaningful network of

results in which to embed these findings, little importance can be attributed to them.

Subjects' ratings (and the sum of these ratings) were also entered into separate 2 (self-monitoring) X 2 (expectation to meet) X 2 (laterality) X 3 (valence) analyses of variance, with all measures between-subjects. The majority of these analyses failed to indicate any main effects or interactions involving laterality. However, there were two exceptions. First, analysis of subjects' ratings of how "likable" the target person was, revealed a significant laterality by valence interaction, $F(2,96) = 4.88$, $p < .05$. Table 21 shows the mean ratings from this interaction. A Newman-Keuls analysis showed that only the means for positive nonshadowed content were significantly different ($p < .05$). Regardless of self-monitoring or meet condition, shadowing material with the right ear (and ignoring the left) during the presentation of positive nonshadowed content resulted in more positive ratings of likableness ($M = 5.1$) than was the case when the left ear was shadowed ($M = 4.2$). Second, analysis of subjects' ratings of how much they would like to meet the target person, showed a significant meet X laterality interaction, $F(1,96) = 5.56$, $p < .05$. However, a further Newman-Keuls analysis failed to reveal any significant differences among the individual means ($p > .05$). Again, these isolated

findings do not lend themselves to a meaningful interpretation.

Table 21

Mean Ratings of Target's Likableness as a Function of Nonshadowed Content Valence and Ear Shadowed (Laterality)

	Ear Shadowed	
Valence	Left	Right
Negative	4.4_{ab}	4.6_{ab}
Neutral	4.9_{ab}	4.5_{ab}
Positive	4.2_{a}	5.1_{b}

Note: Means that do not share a common subscript differ at $p < .05$.

Therefore, although the probe RT findings indicated that HSM individuals (relative to LSM individuals) were influenced by the nonshadowed (negative) material, those findings were not supported by the rating findings. Although HSM individuals had their attention drawn to the nonshadowed channel by negative content, this shift did not apparently result in the formation of different attitudes to the target person.

Correlations with Study 1 Measures

One intent of this study was to explore the possible relationships between the measures collected from this study and the personality measures of the first study. Therefore,

all measures collected from the 120 subjects of Study 2 were entered into a correlation matrix. This resulted in correlations between the personality measures collected previously (both self-monitoring and external measures), and the following measures from Study 2: (a) negative, neutral, and positive RTs; (b) the six impression ratings, and the sum of these ratings; (c) total hits and false alarms from the recognition test; and (d) mean correct shadowing, and mean errors across the three blocks of shadowing. The major focus of these correlations was on possible correlations between Study 2 measures of sensitivity to social information (e.g., RTs during negative nonshadowed content), and the total/subscale scores from the three Self-Monitoring Scales. The desired outcome of this analysis was a clarification of the nature of the sensitivity component of self-monitoring.

However, using the criterion for statistical significance from Study 1 ($p < .001$, two-tailed), examination of the matrix of 266 correlations failed to reveal any significant relationships among Study 1 and 2 measures. Relaxing the criterion for statistical significance to $p < .05$, two-tailed revealed only 7 (6 less than expected by chance) small (-.20 to .18) correlations with the impression ratings from Study 2. Of these, only 2 were with self-monitoring measures. Both were correlations between ratings of the target person's "moodiness" and both

the LWSMS (.18), and the self-presentation factor of the LWSMS (.19).

It is possible that the meet manipulation may have subtly enhanced the relationship between self-monitoring and the measures taken during the second study. Therefore, a further series of correlations were conducted of the measures taken on the subjects within the meet conditions only. This analysis revealed a small correlation between the other-directedness factor of the SMS and the probe RTs taken during negative nonshadowed content, $r(60) = .27$, $p < .05$. Although this is a small, isolated correlation, it provides further evidence of a relationship between responding on the SMS and probe RTs during negative content. Specifically, this finding suggests that the other-directedness factor may tap the aspect of self-monitoring relevant to social information sensitivity.

Discussion

The results provided some evidence of the HSM individual's greater sensitivity to relevant social information. For all subjects, active processing of the shadowed (non-adjective) channel successfully focused the majority of their attentional resources. Therefore, recognition memory for the nonshadowed items was poor, and relatively few shadowing errors were made. However, even though attention had been highly focused on the shadowed channel, there was evidence that HSM individuals vigilance to social material in the nonshadowed channel was sufficient to prompt an attentional response. This sharing of attention with adjectives on the nonshadowed channel, resulted in costs to overall attentional capacity (or cognitive resources). This cost was reflected in higher reaction times to the probe stimulus in the case of HSM individuals. These findings support those of both Nielsen and Sarason (1981), and Bargh (1982) in demonstrating that even under conditions of highly focussed attention, nonshadowed material can attract attentional resources.

Of interest were the conditions under which this attentional response occurred. First, the increased need for attentional resources to focus on the shadowing task (i.e., higher probe RTs for HSM, as opposed to LSM individuals) was demonstrated only when the nonshadowed channel contained negative adjectives. The fact that this

effect occurred for negative but not positive adjectives is undoubtedly due to the greater salience of negative descriptions of others compared to positive descriptions of others. Of the words selected as stimuli, the word with the highest likability rating (in the positive block) was: "honest". By comparison, the word with the lowest rating (in the negative block) was: "phony". Although one would expect the target person (a student assistant) to be "honest", it is likely quite shocking to hear this person described as "phony". Therefore, negative material was more likely to attract attentional resources in the case of HSM individuals. However, the fact that only the more extreme negative items made a draw on attentional resources helps to define the nature of probe RT effect. It appears that the subtle shifts in attention produced by nonshadowed content occurs only when this content is highly salient under the particular circumstances, and therefore, a more powerful draw on attentional resources. In the case of this study, a positive description of the student assistant presented on the nonshadowed channel was unremarkable, and failed to attract attentional resources. However, a (probably unexpected) negative description of this person attracted the HSM individuals' attention and resulted in decreased performance on the probe RT task. Therefore, it appears that it is not just relevant material in general that attracts the HSM individuals attention under these

circumstances. Rather, it is unexpected social information that motivates shifts in the HSM individual's allocation of attentional resources.

Contrary to predictions, the expectation of meeting or not meeting the target person did not effect the probe RT findings. Thus, the results indicated that the HSM individual was more sensitive to the nonshadowed (negative) social information regardless of their expectations of meeting the target. There are two possible explanations for the minimal impact of the expectation to meet manipulation on the probe RTs. First, it is possible that although subjects attended to the manipulation, those in the not meet conditions (especially HSM individuals) still felt there was some possibility of meeting the target person. A second, more compelling, explanation is that the expectation of meeting the target person may not have affected HSM individuals' vigilance to social information. In other words, it appears that HSM individuals may be habitually attentive to relevant social information, regardless of the situation.

The reaction time findings indicated that HSM individuals may process social information in a different manner than do LSM individuals. LSM individuals did not display evidence of differential attention to material of different valences on the nonshadowed channel. On the other hand, HSM individuals provided evidence of shifts in

attention during the presence of potentially relevant nonshadowed material. There are at least two major implications of these findings for the theory of self-monitoring. First, these attentional differences were shown to occur at a comparatively early stage of information processing. The second, related, implication is that the impression management differences that have been repeatedly demonstrated between HSM and LSM individuals may not be due solely to differing motivations or abilities to manage impressions. Rather, as a result of their greater vigilance to social information, the HSM individual may acquire greater amounts of relevant information (than the LSM individual) on which to base situational impression management strategies.

There are two major explanations of the processes underlying the attentional responses demonstrated in these findings. Of importance is the issue of whether or not it is felt subjects were "conscious" of the material presented on the nonshadowed channel. Investigators such as Bargh (1982) have explained the influence of nonshadowed material as evidence that the nonshadowed material has undergone unconscious, automatic processing. According to this framework, information on the nonshadowed channel of relevance to the subject is processed outside awareness and influences the processing of shadowed material (e.g., by causing a draw on resources and increased probe RTs).

However, others see the issue of unconscious processing as unresolved (cf. Holender, 1986). The main difficulty in demonstrating unconscious processing is providing unambiguous proof that the nonshadowed material was not, in fact, available to consciousness at the time of presentation. For investigators concerned primarily with demonstrating unconscious processing, this problem is especially relevant in the dichotic listening paradigm. Holender (1986) has indicated that both recognition memory and shadowing errors are not sufficiently sensitive measures of conscious awareness. Further, measures of awareness considered more appropriate (e.g., trial-by-trial tests for awareness of the nonshadowed material) alter the nature of the shadowing task, and may actually direct conscious attention to the nonshadowed channel.

In addition to the difficulty of proving (or even defining) unconscious processing, there is evidence of the active processing of nonshadowed material. Triesman, Squire, and Green (1974, as cited in Holender, 1986) found that subjects had difficulty focusing attention from the beginning of shadowing, allowing for enough division of attention for the irrelevant (nonshadowed) material to be processed. In the current study, it is possible that subjects had to refocus their attention following each pause and thus had a number of opportunities for attentional shifts to the nonshadowed material. Finally, both Corteen

and Naatanen (also in Holender, 1986) have indicated that focused attention may often be far from perfect, allowing the subject to trade-off attention between the two channels.

Since the issue of unconscious processing is equivocal, it is clearly more appropriate to see dichotic listening as a divided-attention task. Although shadowing focuses the majority of subjects' attention on the shadowed channel, it is likely that they still have sufficient attentional resources remaining to "examine" the nonshadowed channel. What is interesting is the apparent individual differences in who allocates these remaining attentional resources to the nonshadowed channel. From the present findings it appears that HSM individuals' greater vigilance to social information results in the allocation of these resources to the nonshadowed channel. During the presentation of relevant (negative) content, more resources are allocated, with a corresponding decrease in resources allocated to the shadowed channel (reflected by increased probe RTs).

An interesting supplemental finding concerned the role of laterality in the various findings. There was evidence in both the recognition test and shadowing performance findings that subjects found it easier to shadow material presented to their right ear. However, when subjects had to shadow the left ear (and have nonshadowed material presented to their more sensitive, right ear), HSM individuals showed longer probe RTs than when they had to shadow material

presented to the right ear. Therefore, it appeared that it was more difficult for HSM individuals to exclude information presented to their more sensitive ear (regardless of whether or not they expected to meet the target person). However, LSM individuals could exclude information presented to either ear equally well. This finding supported the notion that HSM individuals had, in general, more difficulty (than LSM individuals) excluding the potentially relevant information occurring on the nonshadowed channel.

It now becomes important to demonstrate that the attentional differences between HSM and LSM individuals result in attitudinal, or even behavioural, differences. In summarizing his findings, Bargh (1982) stated that:

> Self-relevant trait stimuli apparently can be processed outside of conscious awareness, but it is not known whether such automatic processing has any influence on the moment-to-moment interpretation of the social environment. (p. 435)

The present study was designed to address this issue by assessing subjects' impressions of the target person being described on the nonshadowed channel. However, the findings failed to indicate that the attentional shifts of the HSM individuals had resulted in any systematic differences in their image of the target person (relative to LSM individuals). Not only did the majority of both LSM and HSM subjects find the request to evaluate the target person odd,

but their ratings differed very little. Clearly, even attentional shifts to the nonshadowed channel had not affected subjects' impression of the target person.

There are at least three possible reasons why the differences in target impressions (between HSM and LSM individuals) were not obtained. First, although subjects were given practice shadowing and responding to the RT probe, they knew that the "real" session began with the first block. This knowledge may have caused concern over their performance and an exclusive focus on accurate shadowing. In fact, of the 11 probe RTs that were deleted because subjects neglected the probe RT task, 9 had occurred during this first block. By the second and third blocks, all subjects may have been more relaxed with a resultant greater probability of attentional differences.

The second possible reason why differences in impressions were not obtained may have concerned the realism of the experimental situation. Subjects shadowed neutral words for a relatively short duration before they were asked for their impressions of the target person. After having performed a novel, and perhaps odd, task for so short a time, all subjects may have thought that the formation of any impressions would not be possible. In fact, many subjects voiced this claim. Even the HSM individuals who had their attention drawn to the negative material may have considered this material of insufficient relevance for an

impression. Therefore, material on the nonshadowed channel may have been discounted during the formation of impressions of the target person.

A more likely reason for the uniform impression data concerns the point during information processing at which the impressions were requested. The probe RT data provided evidence of an attentional response to relevant information on the part of the HSM individuals. However, although HSM subjects shifted some of their attention to the nonshadowed material, they may not have processed this information sufficiently to form any lasting impressions of the target person. This is especially the case given that the impressions were requested after only one block of shadowing. Further, it is quite likely that although attentional shifts can occur, significant shifts in attitudes toward others may require more focused, active processing of the new (previously nonshadowed) information. Therefore, although this study revealed self-monitoring differences in the very early attentional stages of the processing of social information, the results of these attentional differences could not be assessed with the present methodology.

The impression findings may suggest the need for a different measure of the incorporation of the nonshadowed material. The use of impression ratings may not be the most appropriate means to assess "the moment-to-moment

interpretation of the social environment". Instead, it is possible that a less direct measure may have been more effective. This measure could involve the use of projective techniques such as asking subjects to tell a story about the target, or complete sentences referring to the target. Use of a less direct method of testing subjects' impressions of the target may encourage the expression of more tentative impressions that may have been acquired from the material on the nonshadowed channel.

The psychometric component of any self-monitoring differences in sensitivity to social information were explored through correlations between the measures of Study 1 and Study 2. In particular, it was hoped that any measures tapping sensitivity differences between LSM and HSM individuals (i.e., RTs during negative nonshadowed material), would correlate with one of the measures of self-monitoring (total or subscale scores). In fact, one such correlation was found between the other-directedness factor of the SMS and the probe RTs during negative content (for subjects within the meet conditions). Although this is an isolated correlation that should be interpreted with some caution, it supports the notion that behavioural differences in sensitivity are tapped by responses to the SMS. However, there are at least two reasons why more robust relationships were not found. First, the distribution of the 120 subjects' scores on the Study 1 measures may have been

distorted (e.g., non-normal, vastly reduced variance) by the selection of subjects for Study 2. This may have suppressed any possible correlations. Second, although differences in attentional processes were shown to accompany differences in self-monitoring, this does not ensure the two measures will correlate. In other words, some of the differences between HSM and LSM individuals may not be directly measured by some of the existing Self-Monitoring Scales. For example, the sensitivity factor of the LWSMS may tap a sensitivity to others that occurs only after further processing of relevant social information.

In total, the results provided an initial, exploratory investigation of self-monitoring differences in information processing. HSM individuals were more vigilant to novel social information presented outside their focussed attention. These findings supported the notion that HSM individuals have a fundamentally greater sensitivity to relevant social information than do LSM individuals. However, it still remains to verify the links between these attentional differences and the eventual behavioural differences between HSM and LSM individuals. It is entirely likely that attentional differences are only one group of differences between the information processing systems of HSM and LSM individuals.

GENERAL DISCUSSION

The research presented here focussed on two different areas of inquiry into self-monitoring. Study 1 contrasted two conceptions of how to measure individual differences on self-monitoring. On one hand, Snyder has provided the Self-Monitoring Scale (SMS; Snyder, 1974), and, more recently, the Revised Self-Monitoring Scale (RSMS; Gangestad & Snyder, 1985b). The findings from Study 1 reproduced the commonly found 3-factor structure of the SMS (i.e., "acting", "extraversion", and "other-directedness"). In addition, subscale scores derived from these factors were shown to correlate independently with a variety of other personality measures (e.g., Eysenck extraversion). Further, responses to the SMS (total and subscale scores) showed a relatively low level of internal consistency, and accounted for very little of the total variance in subjects' responding.

As an alternative to the SMS (and RSMS), Lennox and Wolfe have provided their own version of the Self-Monitoring Scale (LWSMS; Lennox & Wolfe, 1984). Findings from Study 1 reproduced the 2-factor structure of the LWSMS (i.e., "ability to modify self-presentation" and "sensitivity to the expressive behaviour of others"). In contrast to the SMS, subscale scores from these factors showed fewer, and smaller, correlations with other personality measures. In

addition, responses to the LWSMS (total and subscale scores) showed high internal consistency, and accounted for much more of the total variance in responding than did the SMS.

However, the most important issue resulting from an examination of the two scales is not the question of which measure is "better". Rather, these two methods of measuring self-monitoring highlight the lack of clarity regarding the nature of the construct. The LWSMS was shown to tap a narrowly defined (homogeneous) construct defined primarily as confident impression management. In contrast, the SMS was shown to measure a more complex (heterogeneous) construct that, in some findings, appears to include an anxiety component (among other aspects). Thus, the most important issue resulting from the Study 1 findings is the question: "Who is the high self-monitoring individual?". Are individual differences on self-monitoring only differences in the way individuals choose to present themselves in various situations? Or, alternatively, are the personality differences between these two groups (LSM and HSM individuals) more broad? Perhaps HSM and LSM individuals differ on everything from their perception of situations, to their motivations to adopt different self-presentational styles, to the effects their styles have on their future interactions with others. At the conclusion of Study 1, it appeared that clarification of the self-monitoring construct would be facilitated through

concurrent administration of the RSMS and LWSMS, and the examination of correlations between these measures and criterion variables.

The findings from Study 1 highlighted clarification of the self-monitoring construct (as opposed to repeated criticisms of the SMS) as an important target for further inquiry. However, readdressing the nature of the self-monitoring construct leads to the related, but much broader, issue of self-monitoring theory. Part of the difficulty in trying to determine who the HSM individual is stems from the lack of coherent theory in which to embed research findings. With the exclusion of relatively isolated statements by Snyder (e.g., Snyder, 1979; Gangestad & Snyder 1985a, 1985b), much of the findings on self-monitoring make little appeal to theory. It appears that a number of investigators have found self-monitoring useful (or perhaps just intriguing) for their own purposes. Thus, a number of studies have been produced that appear to include the self-monitoring variable as almost an afterthought. One consequence of having little theoretical reason for including self-monitoring within a research design is findings that indicate that the construct has had little impact. It is often findings such as these that motivate criticisms of the self-monitoring construct. However, as Snyder and Gangestad (1986) point out, in some

of these studies there is little reason to expect any meaningful relationships with self-monitoring.

Although part of the difficulty with negative findings stems from the indiscriminate use of individual difference measures, much more important is the lack of a general theory of self-monitoring. For example, consider the roles of anxiety and confidence. Although these attributes have been pitted against each other in debates of how to measure self-monitoring, their actual role is not clear. Does anxiety over the image being presented to others elicit, occur concurrently with, or result from attempts to control self-presentation? Are HSM individuals truly more confident about themselves than LSM individuals or is the projection of confidence one of the strategies of impression management used by the HSM individual? Are <u>both</u> these components important to maintaining individual differences in self-monitoring? Clearly, the development of a general theory of self-monitoring is warranted.

Study 2 addressed a more narrowly defined issue, differences between LSM and HSM individuals in their sensitivity to social information. The findings revealed that LSM and HSM individuals differ in their vigilance to social information. When presented (outside focused attention) with highly salient (negative) information about an individual, only HSM individuals showed evidence of attentional shifts to this material. Important was the fact

that these differences occurred during the comparatively early stages of information processing. These findings provided partial support for the suggestion by Snyder (1979) that for HSM individuals,

> the prospect of social interaction may initiate perceptual and cognitive processes that predictably channel the search for potentially relevant information. (p. 99)

Elsewhere in the same paper, Snyder (1979) presented the theory of "person-in-situation scenarios":

> According to this theoretical analysis, individuals plan their actions in social settings by, first, reading the character of the situation to learn what self-presentational attributes are most relevant to a situation of that type and, then, constructing cognitive scenarios in which a person expresses and manifests those attributes in a fashion appropriate to that situation. (p. 103)

Basically, then, individuals are seen as engaging a script-like mental image of how to behave in a particular situation. What differs between LSM and HSM individuals is the "person" who is entered into the image (see also Snyder & Cantor, 1980). HSM individuals apparently read the situation and select an appropriate prototype (e.g., the extrovert) to put in the scenario. On the other hand, LSM individuals also "read the character of the situation" and enter their most appropriate "characteristic self" into this mental image. This scenario then guides both the LSM and HSM individual's behaviour in the particular situation.

Clearly, however, the LSM individual and the HSM individual may not have an equivalent ability to read the

situation. Findings from Study 2 indicate that the attentional processes of the HSM individual may direct this person to more relevant information. This, in turn, may result in superior access on the part of the HSM individual to information relevant to the "character of the situation". In other words, their greater sensitivity to potentially relevant social information may direct the HSM individual to more actually relevant information. As a result, at least one reason why the self-presentations of LSM and HSM individuals differ may be that HSM individuals simply have more relevant information on which to base their decisions on how to behave. The HSM individuals' shifts in behaviour from situation to situation may result partially from their greater perception of information relevant to appropriate self-presentation. By contrast, LSM individuals may not use internal cues solely by choice. Rather, their reliance on their own attitudes and emotions as a guide to how to act may result from a lack of access to other relevant information available in the situation.

The two issues addressed by the research presented here, construct validation and sensitivity to social information, initially appear quite distinct. However, in the end both studies emphasize the development of theory within the investigation of self-monitoring. Study 1 raised (among other issues) the issue of the homogeneity versus heterogeneity of the self-monitoring construct, and pointed

to the need for a general theory in which to embed findings. Study 2 was an attempt to examine the exact nature of some differences between high and low self-monitoring individuals. It is by disentangling the precise nature of individual differences in self-monitoring that a meaningful theory of this construct can be developed. In light of the present findings, questions arise as to other information processing differences between high and low self-monitoring individuals. From the present point of view, the natural target for further investigation are the remaining stages between the differential access to social information shown in Study 2, and the eventual (well known) behavioural differences between HSM and LSM individuals. The eventual specification of the nature of these stages will assist in the formation of a general theory of self-monitoring.

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APPENDIX A

Questionnaire Used for Study 1

Directory to Scales Included in Questionnaire
(Study 1)

PART I

Snyder's Self-Monitoring Scale

(a) Source.....Snyder (1974)
(b) Original Response Scale..1 - True/2 - False
(c) Response Scale Used.....Same
(d) Items.....1-25 (25 items)

Snyder's Revised Self-Monitoring Scale

(a) Source.....Gangestad & Snyder (1985)
(b) Original Response Scale..As above
(c) Response Scale Used.....Same
(d) Items.....1,3-6,8,12-14,16-18,20-25
(18 items)

Taylor's Manifest Anxiety Scale

(a) Source.....Taylor (1953)
(b) Original Response Scale..1 - True/2 - False
(c) Response Scale Used.....Same
(d) Items.....26-75 (50 items)

PART II

Eysenck Personality Inventory

(a) Source.....EPI Form A (1963)
(b) Original Response Scale..1 - Yes/2 - No
(c) Response Scale Used.....Same
(d) Items.....76-132 (57 items)

PART III

Rosenberg's Self-Esteem Scale

(a) Source.....Robinson & Shaver (1978)
(b) Original Response Scale..1 - Strongly Agree
2 - Agree
3 - Disagree
4 - Strongly Disagree

(c) Response Scale Used.....3 - Strongly Agree
2 - Agree
1 - Disagree
0 - Strongly Disagree
(d) Items.....1-10 (10 items)

PART IV

Lennox and Wolfe Self-Monitoring Scale

(a) Source.....Lennox & Wolfe (1984)
(b) Original Response Scale. 5 - Certainly, Always True
4 - Generally True
3 - Somewhat True, But w/Exception
2 - Somewhat False, But w/Exception
1 - Generally False
0 - Certainly, Always False
(c) Response Scale Used.....Same
(d) Items.....11-23 (13 items)

Lennox and Wolfe Concern for Appropriateness Scale

(a) Source.....Lennox & Wolfe (1984)
(b) Original Response Scale..As above
(c) Response Scale Used.....Same
(d) Items.....24-43 (20 items)

PART V

Machiavellianism Scale

(a) Source.....Robinson & Shaver (1978)
(b) Original Response Scale..+3 - Agree Strongly
+2 - Agree Somewhat
+1 - Agree Slightly
-1 - Disagree Slightly
-2 - Disagree Somewhat
-3 - Disagree Strongly

(c) Response Scale Used.....5 - Agree Strongly
4 - Agree Somewhat
3 - Agree Slightly
2 - Disagree Slightly
1 - Disagree Somewhat
0 - Disagree Strongly

(d) Items..... 44-63 (20 items)

PART VI

Self-Consciousness Scale

(a) Source.....Fenigstein, Scheier, & Buss (1975)
(b) Original Response Scale..4 - Extremely Characteristic to 0 - Extremely Uncharacteristic
(c) Response Scale Used.....Same
(d) Items.....64-86 (23 items)

Note: The subjects' questionnaires were printed in a smaller font than the following example to minimize the perceived size of the questionnaire. This also permitted more detailed scales on each page than are shown in the following example.

ATTITUDE INVENTORY

We are interested in people's attitudes toward themselves and others. The purpose of asking you to answer the questions on this inventory is to help us assess how useful the questions here are for distinguishing people with different attitudes. With many peoples' responses to these questions, we can then statistically sort out the good and bad items. In other words, we can assess the validity or worth of the various items in this inventory for measuring attitudes.

We would like to stress to you that your answers to these questions are <u>completely</u> <u>confidential</u>. We are interested in <u>group</u> responses, but we want you to indicate your I.D. number so that we can match your two answer sheets.

There are some general instructions we would like give you:

(1) Please respond to each question by darkening in the correct circle on the answer sheet with a pencil.

(2) Please indicate your sex and your I.D. number on both the answer sheets you have been given.

(3) You may think that some of the questions are not very good or seem kind of odd. In fact, one purpose of this inventory is to isolate bad items. However, our ability to assess which questions are good and which questions are bad in this inventory depends on a complete response. So, please try and answer <u>all</u> of the questions.

(4) If you find a question personally objectionable, you do not have to answer it.

(5) Don't spend too much time on any one question, we are interested in your "first impressions".

(6) There are no "right" or "wrong" answers; we are interested only in what <u>you</u> think.

PLEASE FILL IN YOUR SEX AND I.D. NUMBER ON BOTH ANSWER SHEETS BEFORE BEGINNING

PLEASE FILL OUT THE FOLLOWING ITEMS ON THE BLUE ANSWER SHEET

Part One

The following statements concern your personal reactions to a number of different situations. No two statements are exactly alike, so consider each statement carefully before answering. If a statement is TRUE or MOSTLY TRUE as applied to you, blacken the space marked 1 on your answer sheet. If a statement is FALSE or NOT USUALLY TRUE as applied to you, blacken the space marked 2. Do not put your answers on this test booklet itself.

(1) I find it hard to imitate the behavior of other people.

(2) My behavior is usually an expression of my true inner feelings, attitudes, and beliefs.

(3) At parties and social gatherings, I do not attempt to do or say things that others will like.

(4) I can only argue for ideas which I already believe.

(5) I can make impromptu speeches even on topics about which I have almost no information.

(6) I guess I put on a show to impress or entertain people.

(7) When I am uncertain how to act in a social situation, I look to the behavior of others for cues.

(8) I would probably make a good actor.

(9) I rarely need the advice of my friends to choose movies, books or music.

(10) I sometimes appear to others to be experiencing deeper emotions than I actually am.

(11) I laugh more when I watch a comedy with others than when alone.

SCALE: 1(True).....2(False)

(12) In a group of people I am rarely the center of attention.

(13) In different situations and with different people, I often act like very different persons.

(14) I am not particularly good at making other people like me.

(15) Even if I am not enjoying myself, I often pretend to be having a good time.

(16) I'm not always the person I appear to be.

(17) I would not change my opinions (or the way I do things) in order to please someone else or win their favor.

(18) I have considered being an entertainer.

(19) In order to get along and be liked, I tend to be what people expect me to be rather than anything else.

(20) I have never been good at games like charades or improvisational acting.

(21) I have trouble changing my behavior to suit different people and different situations.

(22) At a party I let others keep the jokes and stories going.

(23) I feel a bit awkward in company and do not show up quite so well as I should.

(24) I can look anyone in the eye and tell a lie with a straight face (if for a right end).

(25) I may deceive people by being friendly when I really dislike them.

(26) I do not tire quickly.

(27) I am often sick to my stomach.

(28) I am about as nervous as other people.

(29) I have very few headaches.

SCALE: 1(True).....2(False)

(30) I work under a great deal of strain.

(31) I cannot keep my mind on one thing.

(32) I worry over money and business.

(33) I frequently notice my hand shakes when I try to do something.

(34) I blush as often as others.

(35) I have diarrhea ("the runs") once a month or more.

(36) I worry quite a bit over possible troubles.

(37) I practically never blush.

(38) I am often afraid that I am going to blush.

(39) I have nightmares every few nights.

(40) My hands and feet are usually warm enough.

(41) I sweat very easily even on cool days.

(42) When embarrassed I often break out in a sweat which is very annoying.

(43) I do not often notice my heart pounding and I am seldom short of breath.

(44) I feel hungry almost all the time.

(45) Often my bowels don't move for several days at a time.

(46) I have a great deal of stomach trouble.

(47) At times I lose sleep over worry.

(48) My sleep is restless and disturbed.

(49) I often dream about things I don't like to tell other people.

(50) I am easily embarrassed.

(51) My feelings are hurt easier than most people.

SCALE: 1(True).....2(False)

(52) I often find myself worrying about something.

(53) I wish I could be as happy as others.

(54) I am usually calm and not easily upset.

(55) I cry easily.

(56) I feel anxious about something or someone almost all of the time.

(57) I am happy most of the time.

(58) It makes me nervous to have to wait.

(59) At times I am so restless that I cannot sit in a chair for very long.

(60) Sometimes I become so excited that I find it hard to get to sleep.

(61) I have often felt that I faced so many difficulties I could not overcome them.

(62) At times I have been worried beyond reason about something that really did not matter.

(63) I do not have as many fears as my friends.

(64) I have been afraid of things or people that I know could not hurt me.

(65) I certainly feel useless at times.

(66) I find it hard to keep my mind on a task or job.

(67) I am more self-conscious than most people.

(68) I am the kind of person who takes things hard.

(69) I am a very nervous person.

(70) Life is often a strain for me.

(71) At times I think I am no good at all.

(72) I am not at all confident of myself.

SCALE: 1(True).....2(False)

(73) At times I feel that I am going to crack up.

(74) I don't like to face a difficulty or make an important decision.

(75) I am very confident of myself.

SCALE: 1(True).....2(False)

Part Two

Following are some questions regarding the way you behave, feel and act. Try and decide whether "Yes," or "No" represents your usual way of acting or feeling. If your answer is YES, darken the circle marked 1 on the answer sheet. If your answer is NO, darken the circle marked 2 on the answer sheet.

(76) Do you often long for excitement?

(77) Do you often need understanding friends to cheer you up?

(78) Are you usually carefree?

(79) Do you find it very hard to take no for an answer?

(80) Do you stop and think things over before doing anything?

(81) If you say you will do something do you always keep your promise, no matter how inconvenient it might be to do so?

(82) Does your mood often go up and down?

(83) Do you generally do and say things quickly without stopping to think?

(84) Do you ever feel "just miserable" for no good reason?

(85) Would you do almost anything for a dare?

(86) Do you suddenly feel shy when you want to talk to an attractive stranger?

(87) Once in a while do you lose your temper and get angry?

(88) Do you often do things on the spur of the moment?

(89) Do you often worry about things you should not have done or said?

(90) Generally do you prefer reading to meeting people?

SCALE: 1(Yes).....2(No)

(91) Are your feelings rather easily hurt?

(92) Do you like going out a lot?

(93) Do you occasionally have thoughts and ideas that you would not like other people to know about?

(94) Are you sometimes bubbling over with energy and sometimes very sluggish?

(95) Do you prefer to have few but special friends?

(96) Do you daydream a lot?

(97) When people shout at you, do you shout back?

(98) Are you often troubled about feelings of guilt?

(99) Are all your habits good and desirable ones?

(100) Can you usually let yourself go and enjoy yourself a lot at a fun party?

PLEASE TURN OVER YOUR ANSWER SHEET FOR THE FOLLOWING QUESTIONS

---

(101) Would you call yourself tense or "highly-strung"?

(102) Do other people think of you as being very lively?

(103) After you have done something important, do you often come away feeling you could have done better?

(104) Are you mostly quiet when you are with other people?

(105) Do you sometimes gossip?

(106) Do ideas run through your head so that you cannot sleep?

(107) If there is something you want to know about, would you rather look it up in a book than talk to someone about it?

(108) Do you get palpitations or thumping in your heart?

SCALE: 1(Yes).....2(No)

(109) Do you like the kind of work that you need to pay close attention to?

(110) Do you get attacks of shaking or trembling?

(111) Would you always declare everything at the customs, even if you knew that you could never be found out?

(112) Do you hate being with a crowd who play jokes on one another?

(113) Are you an irritable person?

(114) Do you like doing things in which you have to act quickly?

(115) Do you worry about awful things that might happen?

(116) Are you slow and unhurried in the way you move?

(117) Have you ever been late for an appointment or work?

(118) Do you have many nightmares?

(119) Do you like talking to people so much that you would never miss a chance of talking to a stranger?

(120) Are you troubled by aches and pains?

(121) Would you be very unhappy if you could not see lots of people most of the time?

(122) Would you call yourself a nervous person?

(123) Of all the people you know are there some whom you definitely do not like?

(124) Would you say you were fairly self-confident?

(125) Are you easily hurt when people find fault with you or your work?

(126) Do you find it hard to really enjoy yourself at a lively party?

(127) Are you troubled with feelings of inferiority?

SCALE: 1(Yes).....2(No)

(128) Can you easily get some life into a rather dull party?

(129) Do you sometime talk about things you know nothing about?

(130) Do you worry about your health?

(131) Do you like playing pranks on others?

(132) Do you suffer from sleeplessness?

PLEASE SWITCH TO THE GREEN ANSWER SHEET FOR THE REMAINING ITEMS

SCALE: 1(Yes).....2(No)

Part Three

The following statements (in the remaining parts) represent beliefs or preferences about one's self, personal reactions to a number of different situations, and some commonly held beliefs that are true of some people but are not true of others.

Read each statement carefully. Then indicate the extent to which you agree or disagree by darkening the correct number on your answer sheet. The numbers and their meaning (for this part) are indicated below:

If you STRONGLY AGREE, darken circle.....3
If you AGREE, darken circle.....2
If you DISAGREE, darken circle.....1
If you STRONGLY DISAGREE, darken circle.....0

Therefore, for all of the remaining questions, the more you agree with an item, the higher the number you should select.

(1) I feel that I'm a person of worth, at least on an equal basis with others.

(2) I feel that I have a number of good qualities.

(3) All in all, I am inclined to feel that I am a failure.

(4) I am able to do things as well as most other people.

(5) I feel I do not have much to be proud of.

(6) I take a positive attitude toward myself.

(7) On the whole, I am satisfied with myself.

(8) I wish I could have more respect for myself.

(9) I certainly feel useless at times.

(10) At times I think I am no good at all.

Part Four

NOTE that the following questions are answered on a different scale. Please indicate the extent to which you think the statement is true or false in your case by darkening the appropriate circle on your answer sheet. The numbers and their meaning are indicated below:

If the statement is CERTAINLY, ALWAYS TRUE, darken circle..5
If the statement is GENERALLY TRUE, darken circle 4
If the statement is SOMEWHAT TRUE, BUT WITH EXCEPTION,.....3
If the statement is SOMEWHAT FALSE, BUT WITH EXCEPTION,....2
If the statement is GENERALLY FALSE, darken circle.....1
If the statement is CERTAINLY, ALWAYS FALSE, darken circle.0

(11) In social situations, I have the ability to alter my behavior if I feel that something else is called for.

(12) I am often able to read people's true emotions correctly through their eyes.

(13) I have the ability to control the way I come across to people, depending on the impression I wish to give them.

(14) In conversations, I am sensitive to even the slightest change in the facial expression of the person I'm conversing with.

(15) My powers of intuition are quite good when it comes to understanding others' emotions and motives.

(16) I can usually tell when others consider a joke to be in bad taste, even though they may laugh convincingly.

(17) When I feel that the image I am portraying isn't working, I can readily change it to something that does.

(18) I can usually tell when I've said something inappropriate by reading it in the listener's eyes.

(19) I have trouble changing my behavior to suit different people and different situations.

0(Al.False)/1(Gen.F.)/2(So.F.)/3(So.True)/4(Gen.T.)/5(Al.T.)

(20) I have found that I can adjust my behavior to meet the requirements of any situation I find myself in.

(21) If someone is lying to me, I usually know it at once from that person's manner of expression.

(22) Even when it might be to my advantage, I have difficulty putting up a good front.

(23) Once I know what the situation calls for, it's easy for me to regulate my actions accordingly.

(24) I tend to show different sides of myself to different people.

(25) It is my feeling that if everyone else in a group is behaving in a certain manner, this must be the proper way to behave.

(26) I actively avoid wearing clothes that are not in style.

(27) In different situations and with different people, I often act like very different persons.

(28) At parties I usually try to behave in a manner that makes me fit in.

(29) When I am uncertain how to act in a social situation, I look to the behavior of others for cues.

(30) Although I know myself, I find that others do not know me.

(31) I try to pay attention to the reactions of others to my behavior in order to avoid being out of place.

(32) I find that I tend to pick up slang expressions from others and use them as part of my own vocabulary.

(33) Different situations can make me behave like very different people.

(34) I tend to pay attention to what others are wearing.

(35) The slightest look of disapproval in the eyes of a person with whom I am interacting is enough to make me change my approach.

0(Al.False)/1(Gen.F.)/2(So.F.)/3(So.True)/4(Gen.T.)/5(Al.T.)

(36) Different people tend to have different impressions about the type of person I am.

(37) It's important to me to fit in to the group I'm with.

(38) My behavior often depends on how I feel others wish me to behave.

(39) I am not always the person I appear to be.

(40) If I am the least bit uncertain as to how to act in a social situation, I look to the behavior of others for cues.

(41) I usually keep up with clothing style changes by watching what others wear.

(42) I sometimes have the feeling that people don't know who I really am.

(43) When in a social situation, I tend not to follow the crowd, but instead behave in a manner that suits my particular mood at the time.

Part Five

NOTE that the following questions are answered on a different scale. Please indicate the extent to which you agree or disagree with each statement by darkening the appropriate circle on your answer sheet. The numbers and their meaning are indicated below:

If you AGREE STRONGLY, darken circle.....5
If you AGREE SOMEWHAT, darken circle.....4
If you AGREE SLIGHTLY, darken circle.....3
If you DISAGREE SLIGHTLY, darken circle.....2
If you DISAGREE SOMEWHAT, darken circle.....1
If you DISAGREE STRONGLY, darken circle.....0

(44) Never tell anyone the real reason you did something unless it is useful to do so.

(45) The best way to handle people is to tell them what they want to hear.

(46) One should take action only when sure it is morally right.

(47) Most people are basically good and kind.

(48) It is safest to assume that all people have a vicious streak and it will come out when they are give a chance.

(49) Honesty is the best policy in all cases.

(50) There is no excuse for lying to someone else.

(51) Generally speaking, men won't work hard unless they're forced to do so.

(52) All in all, it is better to be humble and honest than to be important and dishonest.

(53) When you ask someone to do something for you, it is best to give the real reasons for wanting it rather than giving reasons which carry more weight.

(54) Most people who get ahead in the world lead clean, moral lives.

0(Dis.St.)/1(D.So.)/2(D.Sl.)/3(A.Sl.)/4(A.So.)/5(Agree St.)

(55) Anyone who completely trusts anyone else is asking for trouble.

(56) The biggest difference between most criminals and other people is that the criminals are stupid enough to get caught.

(57) Most men are brave.

(58) It is wise to flatter important people.

(59) It is possible to be good in all respects.

(60) Barnum was wrong when he said that there's a sucker born every minute.

PLEASE TURN OVER YOUR ANSWER SHEET FOR THE FOLLOWING QUESTIONS

---

(61) It is hard to get ahead without cutting corners here and there.

(62) People suffering from incurable diseases should have the choice of being put painlessly to death.

(63) Most men forget more easily the death of their father than the loss of their property.

Part Six

NOTE that the following questions are answered on a different scale. Please indicate the extent to which you feel the following statements are characteristic (true) of you personally. If you think an item is EXTREMELY UNCHARACTERISTIC of you, darken circle 0. If you think an item is EXTREMELY CHARACTERISTIC of you, darken circle 4. If your opinion lies between these two points, darken circle 1, 2, or 3; depending on the degree to which you feel the item is characteristic of you.

(64) I'm always trying to figure myself out.

(65) I'm concerned about my style of doing things.

(66) Generally, I'm not very aware of myself.

(67) It takes me time to overcome my shyness in new situations.

(68) I reflect about myself a lot.

(69) I'm concerned about the way I present myself.

(70) I'm often the subject of my own fantasies.

(71) I have trouble working when someone is watching me.

(72) I never scrutinize myself.

(73) I get embarrassed very easily.

(74) I'm self-conscious about the way I look.

(75) I don't find it hard to talk to strangers.

(76) I'm generally attentive to my inner feelings.

(77) I usually worry about making a good impression.

(78) I'm constantly examining my motives.

(79) I feel anxious when I speak in front of a group.

(80) One of the last things I do before I leave my house is look in the mirror.

0(Extremely Unchar.)/1/2/3/4(Extremely Characteristic)

(81) I sometimes have the feeling that I'm off somewhere watching myself.

(82) I'm concerned about what other people think of me.

(83) I'm alert to changes in my mood.

(84) I'm usually aware of my appearance.

(85) I'm aware of the way my mind works when I work through a problem.

(86) Large groups make me nervous.

Please check that:

(1) You have answered every question.

(2) You have indicated your sex and I.D. number on both answer sheets.

Thank-you Very Much for you participation!

0(Extremely Unchar.)/1/2/3/4(Extremely Characteristic)

APPENDIX B

Correlations with the RSMS

Table 22

Intercorrelations: Total Score and Subscales from RSMS (1985)

Scale/Subscales	2	3	4
1. Gangestad & Snyder (1985)	.79*	.68*	.67*
2. Gangestad & Snyder (1985) I: Acting		.48*	.38*
3. Gangestad & Snyder (1985) II: Extraversion			.16*
4. Gangestad & Snyder (1985) III: Other-Directed			

Note: N = 998 - 999.

* $p < .001$, two-tailed.

Table 23

Intercorrelations: Total Score and Subscales from RSMS (1985) with the Lennox and Wolfe Self-Monitoring and Concern for Appropriateness Scales

	Gangestad & Snyder (1985)			
Scales/Subscales	Full	I	II	III
1. Lennox & Wolfe Self-Monitoring	.45*	.38*	.35*	.26*
2. Lennox & Wolfe SM I: Self-Presentation	.54*	.38*	.37*	.39*
3. Lennox & Wolfe SM II: Sensitivity	.14*	.21*	.17*	-.02
4. Lennox & Wolfe Concern for Appropriate.	.29*	.15*	-.06	.51*
5. Lennox & Wolfe CAS I: Social Comparison	.20*	.06	-.03	.40*
6. Lennox & Wolfe CAS II: Variability	.28*	.22*	-.11	.45*

Note: N = 998 - 999.

* $p < .001$, two-tailed.

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Table 24

Intercorrelations: Total Score and Subscale Scores from RSMS (1985) with Other Personality Measures

Scales	Total and Subscale Scores			
	Full	I	II	III
1. Taylor Manifest Anxiety	-.04	-.02	-.23*	.20*
2. Eysenck Extraversion	.47*	.37*	.55*	.18*
3. Eysenck Neuroticism	.02	.03	-.16*	.20*
4. Eysenck Lie Scale	-.25*	-.18*	-.12*	-.18*
5. Rosenberg's Self-Esteem	.07	.03	.24*	-.12*
6. Machiavellianism	.28*	.23*	.05	.24*
7. Private Self-Consciousness	.16*	.19*	.04	.15*
8. Public Self-Consciousness	.16*	.09	.02	.25*
9. Social Anxiety	-.30*	-.27*	-.45*	.04

Note: N = 998 - 999.

* $p < .001$, two-tailed.

APPENDIX C

Correlations among the Personality Measures

The intercorrelations within Table 25 will be examined for each scale individually. Examining the Taylor Manifest Anxiety Scale first, it can be seen that, as expected, this scale shows a high correlation with neuroticism (.83), and a moderate correlation with social anxiety (.48). Further, the scale has a small negative relationship with extraversion (-.19), and a large negative relationship with self-esteem (-.58). The scale also shows small to moderate relationships with machiavellianism (.17), and both private (.27) and public (.34) self-consciousness. The pattern of correlations support the interpretation of this scale as a measure of trait anxiety.

The Eysenck Extraversion Scale shows small positive relationships with self-esteem (.25) and machiavellianism (.12), and small to moderate negative correlations with manifest anxiety (-.19), the lie scale (-.23), and social anxiety (-.36). Clearly, extraversion taps more positive attributes.

The Eysenck Neuroticism Scale produced intercorrelations similar to those of the manifest anxiety scale. Neuroticism correlates highly with manifest anxiety (.83), moderately with social anxiety (.44), and moderately negatively with self-esteem (-.49). In addition, this scale shows small to moderate relationships with machiavellianism (.17), the lie scale (-.15), and both private (.32) and

public (.36) self-consciousness. The label of neuroticism appears appropriate for this scale.

The Eysenck Lie Scale shows small negative relationships with extraversion (-.23), neuroticism (-.15), and machiavellianism (-.24). Although it is not clear what correlations with the lie scale actually mean, negative relationships with the two other subscales of the Eysenck Personality Inventory would be expected if the scales had been designed to minimize the effects of lying. The negative correlation with machiavellianism is similar to the negative relationship with self-monitoring, and perhaps can be addressed with the same explanations (i.e., accurate machiavellians versus "virtuous" non-machiavellians).

Rosenberg's Self-Esteem Scale shows small to large negative correlations with machiavellianism (-.11), private (-.18) and public (-.17) self-consciousness, social anxiety (-.32), and manifest anxiety (-.58). In addition, the scale shows a low, positive relationship with extraversion (.25). In general, then, this scale shows a pattern of intercorrelations consonant with a measure of self-esteem.

The Machiavellianism Scale shows a variety of statistically significant but low positive correlations with manifest anxiety (.17), extraversion (.12), neuroticism (.17), and public self-consciousness (.13). In addition, the scale produced low negative correlations with self-esteem (-.11) and the lie scale (-.24). The image of

the machiavellian produced by these intercorrelations is one of an outgoing but anxious individual. Although this person may believe that other people can be manipulated or controlled, these beliefs do not prevent the existence of anxiety about self and others. This places an interesting light on the consistent correlations between this variable and self-monitoring. Although these correlations most likely represent an overlap between the two constructs on attitudes that others can be manipulated, it is possible that the two constructs also share an anxiety component.

Private and Public Self-Consciousness showed a highly similar pattern of correlations with the other variables. Both variables show low to moderate correlations with manifest anxiety (.27 and .34), neuroticism (.32 and .36), and social anxiety (.23 and .39). As well, both scales show a low negative correlation with self-esteem (-.18 and -.17). Finally, public self-consciousness shows a low positive relationship with machiavellianism (.13), and, as would be expected, the two forms of self-consciousness intercorrelate highly (.56). It appears that a focus on internal and/or external aspects of the self can be a source of negative self-feelings. Again, of interest here are the consistent correlations between the two forms of self-consciousness and self-monitoring.

Intercorrelations between the Social Anxiety Scale and the other measures were consonant with the label of the

scale. Social anxiety shows low to moderate correlations with private (.23) and public (.39) self-consciousness, neuroticism (.44), and manifest anxiety (.48). In addition, the scale produced moderate negative relationships with self-esteem (-.32) and extraversion (-.36).

Table 25a

Intercorrelations: Personality Measures

Scales	2	3	4	5
1. Taylor Manifest Anxiety	-.19*	.83*	-.09	-.58*
2. Eysenck Extraversion		-.09	-.23*	.25*
3. Eysenck Neuroticism			-.15*	-.49*
4. Eysenck Lie Scale				.05
5. Rosenberg's Self-Esteem				

Note: N = 998 - 999.

* $p < .001$, two-tailed.

Table 25b

Intercorrelations: Personality Measures

Scales	6	7	8	9
1. Taylor Manifest Anxiety	.17*	.27*	.34*	.48*
2. Eysenck Extraversion	.12*	-.02	.04	-.36*
3. Eysenck Neuroticism	.17*	.32*	.36*	.44*
4. Eysenck Lie Scale	-.24*	-.03	-.09	.02
5. Rosenberg's Self-Esteem	-.11*	-.18*	-.17*	-.32*
6. Machiavellianism		.08	.13*	.00
7. Private Self-Consciousness			.56*	.23*
8. Public Self-Consciousness				.39*
9. Social Anxiety				

Note: N = 998 - 999.

* $p < .001$, two-tailed.

APPENDIX D

Stimulus Words Used for Study 2

Positive Words
(Nonshadowed)

Word	Freq. per 1,000,000	Mean Likableness
well-read	.01	4.90
trustful	.11	5.00
tactful	.14	4.90
witty	.40	4.80
truthful	1.06	5.50
sincere	1.37	5.70
prompt	1.47	4.70
trusting	1.53	5.00
wholesome	1.81	4.50
decent	2.31	4.50
poised	2.52	4.50
tidy	4.22	4.30
earnest	4.22	5.20
modest	5.64	4.30
loyal	5.71	5.50
mature	5.80	5.20
humble	6.22	4.30
relaxed	7.06	4.40
thoughtful	9.37	5.30
grateful	9.53	4.90
polite	10.38	4.90
honest	13.38	5.60
cheerful	14.31	5.00
smart	17.10	4.90
patient	18.04	4.80
clever	21.55	5.00
lively	21.71	4.70
eager	26.18	4.50
active	29.77	4.60
pleasant	48.18	5.00
Sum	291.10	146.40
Mean	9.70	4.88

Negative Words
(Nonshadowed)

Word	Freq. per 1,000,000	Mean Likableness
spiteful	.00	.70
phony	.05	.30
vulgar	.56	.80
liar	.99	.30
scornful	1.11	1.50
messy	1.36	1.50
bragging	1.56	1.00
showy	1.75	1.50
childish	1.86	1.10
jealous	2.41	1.00
unkind	2.82	.70
unfair	2.83	1.10
greedy	3.33	.70
selfish	4.07	.80
boring	4.11	1.00
gloomy	4.13	1.40
rude	5.32	.80
hostile	5.36	.90
vain	8.80	1.30
helpless	9.09	1.40
crude	10.21	1.00
careless	10.27	1.40
cruel	15.16	.40
noisy	15.75	1.70
lazy	16.36	1.30
foolish	21.95	1.40
shallow	23.33	1.20
dull	25.27	1.20
nervous	25.28	2.00
weak	44.06	1.60
Sum	269.15	33.00
Mean	8.97	1.10

Neutral Words
(Nonshadowed)

Word	Freq. per 1,000,000
briefcase	.14
brochure	.18
exhale	.59
salads	.60
cancel	1.35
birthplace	1.50
hallway	2.38
outlook	2.40
eyebrows	3.21
compute	3.46
pens	4.42
gesture	4.57
attach	5.96
react	6.02
savings	6.89
adjust	7.00
chapters	8.34
gloves	8.40
shovel	9.16
acre	9.16
greeting	11.30
phone	11.59
tissue	14.76
mention	15.07
entrance	17.94
printing	20.02
recall	23.05
adult	23.18
income	28.31
birthday	42.38
Sum	293.40
Mean	9.78
Sum of all Neutral wds	1192.59
Mean	9.94

Neutral Words
(Shadowed - Block 1)

Word	Freq. per 1,000,000
checklists	.02
fulltime	.25
cheekbones	.29
surname	.69
skyline	1.12
blink	1.81
lab	1.82
campus	2.84
rating	2.86
exit	3.79
good-bye	3.93
elect	4.75
couch	5.15
weekend	6.21
lately	6.23
session	7.79
cloudy	7.96
carpet	8.74
proceed	8.78
sandwich	9.67
motions	10.05
issue	13.21
kettle	14.18
behave	17.08
career	17.29
button	21.19
detail	21.25
plastic	25.17
cooking	25.91
program	49.55
Sum	299.70
Mean	9.99

Neutral Words
(Shadowed - Block 2)

Word	Freq. per 1,000,000
crosswalk	.06
scissor	.20
handshake	.40
armchair	.66
roommate	1.20
inspect	1.63
cafe	1.99
census	2.82
classmate	3.00
budget	3.67
railing	4.23
textbook	4.72
ankle	5.76
conclude	6.12
consult	6.33
parking	7.68
sweater	8.06
glimpse	8.53
carton	8.96
indoors	9.37
fountain	10.23
curtain	13.15
address	14.56
speaker	16.62
chin	17.91
fashion	20.79
jacket	21.25
arrive	24.57
package	26.67
pencil	49.39
Sum	300.60
Mean	10.02

Neutral Words
(Shadowed - Block 3)

Word	Freq. per 1,000,000
clipboard	.13
viewer	.18
postcard	.47
seafood	.60
inhale	1.21
drapes	1.60
bracelet	2.29
stair	2.40
poster	3.02
drawers	3.50
access	4.36
parcel	4.64
guided	5.78
elbows	6.09
grammar	6.68
findings	7.00
brand	8.28
respond	8.50
belief	9.11
margin	9.32
briefly	10.68
campaign	12.46
keys	14.66
afford	15.42
doorway	17.92
actions	20.62
prairie	21.51
sale	24.36
owner	27.92
student	48.44
Sum	299.10
Mean	9.97

Practice Words
(Shadowed)

Word	Freq. per 1,000,000
weather	166.34
fact	173.52
system	179.00
voice	209.79
list	216.13
letter	238.16
wind	240.80
ground	266.87
book	271.65
body	295.73
morning	302.23
sentence	362.78
paper	373.94
mother	417.67
head	429.00
sound	525.74
name	629.90
back	1055.60
words	1124.10
time	1634.30
Sum	9113.25
Mean	455.66

Practice Words
(Nonshadowed)

Word	Freq. per 1,000,000
snow	168.09
pictures	171.02
mind	185.36
meaning	192.60
person	218.94
rest	228.12
hands	241.40
table	263.51
group	286.05
face	290.91
car	302.74
city	310.95
father	405.23
light	413.06
school	484.43
house	496.81
number	704.34
place	798.93
water	1207.30
people	1344.10
Sum	8713.89
Mean	435.69
Sum of all Practice wds	17827.14
Mean	445.68

APPENDIX E

Impressions Questionnaire

FIRST IMPRESSIONS OF THE STUDENT ASSISTANT DESCRIBED ON THE TAPE

Please give your first impressions of the student assistant who was the main topic of the words you have been listening to. For each item below, read the word and circle a number on the 7-point scale that best expresses your opinion of this person.

(1) Likable

Not Likable	1	2	3	4	5	6	7	Very Likable

(2) Socially Competent

Not Socially Competent	1	2	3	4	5	6	7	Very Socially Competent

(3) Friendly

Not Friendly	1	2	3	4	5	6	7	Very Friendly

(4) Bright

Not Bright	1	2	3	4	5	6	7	Very Bright

(5) Moody

Very Moody	1	2	3	4	5	6	7	Not Moody

(6) Like To Meet

Don't Want To Meet	1	2	3	4	5	6	7	Would Like To Meet

APPENDIX F

Recognition Measure

The Female Voice

Please rate each of the following words as to how confident you are that you did or did not hear them spoken by the FEMALE voice.

(1) angry

Certain did not hear	1	2	3	4	5	6	Certain heard

(2) nervous

Certain did not hear	1	2	3	4	5	6	Certain heard

(3) sports

Certain did not hear	1	2	3	4	5	6	Certain heard

(4) neat

Certain did not hear	1	2	3	4	5	6	Certain heard

(5) stubborn

Certain did not hear	1	2	3	4	5	6	Certain heard

(6) scolding

Certain did not hear	1	2	3	4	5	6	Certain heard

(7) active

Certain did not hear	1	2	3	4	5	6	Certain heard

(8) prompt

Certain did not hear	1	2	3	4	5	6	Certain heard

(9) trustful

Certain did not hear	1	2	3	4	5	6	Certain heard

(10) phony

Certain did not hear	1	2	3	4	5	6	Certain heard

(11) purchase

Certain did not hear	1	2	3	4	5	6	Certain heard

(12) noisy

Certain did not hear	1	2	3	4	5	6	Certain heard

(13) involves

Certain did not hear	1	2	3	4	5	6	Certain heard

(14) frank

Certain did not hear	1	2	3	4	5	6	Certain heard

(15) wholesome

Certain did not hear	1	2	3	4	5	6	Certain heard

(16) decent

Certain did not hear	1	2	3	4	5	6	Certain heard

(17) realist

Certain did not hear	1	2	3	4	5	6	Certain heard

(18) hopeful

Certain did not hear	1	2	3	4	5	6	Certain heard

(19) bragging

Certain did not hear	1	2	3	4	5	6	Certain heard

(20) scornful

Certain did not hear	1	2	3	4	5	6	Certain heard

(21) acquire

Certain did not hear	1	2	3	4	5	6	Certain heard

(22) skates

Certain did not hear	1	2	3	4	5	6	Certain heard

(23) disturbed

Certain did not hear	1	2	3	4	5	6	Certain heard

(24) compute

Certain did not hear	1	2	3	4	5	6	Certain heard

(25) well-read

Certain did not hear	1	2	3	4	5	6	Certain heard

(26) phone

Certain did not hear	1	2	3	4	5	6	Certain heard

(27) reckless

Certain did not hear	1	2	3	4	5	6	Certain heard

(28) composed

Certain did not hear	1	2	3	4	5	6	Certain heard

(29) lifeless

Certain did not hear	1	2	3	4	5	6	Certain heard

(30) kindly

Certain did not hear	1	2	3	4	5	6	Certain heard

(31) smart

Certain did not hear	1	2	3	4	5	6	Certain heard

(32) acclaim

Certain did not hear	1	2	3	4	5	6	Certain heard

(33) depressed

Certain did not hear	1	2	3	4	5	6	Certain heard

(34) truthful

Certain did not hear	1	2	3	4	5	6	Certain heard

(35) rash

Certain did not hear	1	2	3	4	5	6	Certain heard

(36) mention

Certain did not hear	1	2	3	4	5	6	Certain heard

(37) pause

Certain did not hear	1	2	3	4	5	6	Certain heard

(38) honest

Certain did not hear	1	2	3	4	5	6	Certain heard

(39) childish

Certain did not hear	1	2	3	4	5	6	Certain heard

(40) jealous

Certain did not hear	1	2	3	4	5	6	Certain heard

(41) ladder

Certain did not hear	1	2	3	4	5	6	Certain heard

(42) calm

Certain did not hear	1	2	3	4	5	6	Certain heard

43) adult

Certain did not hear	1	2	3	4	5	6	Certain heard

(44) abide

Certain did not hear	1	2	3	4	5	6	Certain heard

(45) brochure

Certain did not hear	1	2	3	4	5	6	Certain heard

(46) discreet

Certain did not hear	1	2	3	4	5	6	Certain heard

(47) clumsy

Certain did not hear	1	2	3	4	5	6	Certain heard

(48) cancel

Certain did not hear	1	2	3	4	5	6	Certain heard

(49) dull

Certain did not hear	1	2	3	4	5	6	Certain heard

(50) manners

Certain did not hear	1	2	3	4	5	6	Certain heard

(51) eyebrows

Certain did not hear	1	2	3	4	5	6	Certain heard

(52) tactless

Certain did not hear	1	2	3	4	5	6	Certain heard

(53) cultured

Certain did not hear	1	2	3	4	5	6	Certain heard

(54) spiteful

Certain did not hear	1	2	3	4	5	6	Certain heard

(55) careless

Certain did not hear	1	2	3	4	5	6	Certain heard

(56) eager

Certain did not hear	1	2	3	4	5	6	Certain heard

(57) thorough

Certain did not hear	1	2	3	4	5	6	Certain heard

(58) briefcase

Certain did not hear	1	2	3	4	5	6	Certain heard

(59) hallway

Certain did not hear	1	2	3	4	5	6	Certain heard

(60) income

Certain did not hear	1	2	3	4	5	6	Certain heard

In some conditions of this experiment, the participants meet the student assistant described on the tape. In other conditions they don't. Please tell us whether or not you will be meeting this person.

YES	NO
I will meet	I will not meet

APPENDIX G

Script for Study 2

DISSERTATION: STUDY II
(Revised February 16, 1986)

PRE-SESSION CHECK LIST

(1) Name tag is on.

(2) The SHADOWING RECORDER is ready.

(3) The probe apparatus is ready and the reaction times will not write over existing data.

(4) Fresh attribution and recognition booklets are ready.

(5) A fresh interview and the debriefing is ready

(6) The data sheet is prepared (including the date, time, and the beginning tape position for shadowing).

GREETING

(1) Greet participant and take into room.

(2) Get participation card and check to see if their I.D. number is on the list; if it is, sign their card and put the library reading name on the back.

(3) Get person's information on the participant record sheet.

(4) Have person fill out and keep a "Psychology Research Participation Credit System" answer sheet.

(5) While they are filling out the sheets:

(a) check to see their SM level, then assign them to a condition;

(b) put the correct stimulus tape in the playback deck and make sure it is rewound to be beginning (practice items);

(c) set the sound levels for the shadowing tape; and

(d) check the target manipulation and laterality.

(6) Ask the person:

(a) if they have normal hearing in both ears;

(b) if English is their first language; and

(c) which hand they use for writing.

(Note the answers on the data sheet.)

THE COCKTAIL PARTY PHENOMENON

Deliver the following description:

In this research, we are interested in what is known as the "cocktail party phenomenon". This refers to a situation where a person is at a party or some other event and there are several different conversations going on at the same time. Under these circumstances, if you listen to the sound in the room it just sounds like noise. However, it has been demonstrated, and you probably have found this yourself, that people are able to pick out one conversation and follow it, even with all the other conversations going on in the room.

The fact that people can zero in on a conversation like this has been of primary interest to researchers investigating the way individuals sort through information in the world around them. Demonstration of this cocktail party phenomenon has been used as support for the idea that we have a kind of filter in our cognitive system that selects information that is important to us while "filtering out" information that is not important to us.

In our research, we are interested in a slightly different angle on the cocktail party phenomenon. Rather than exploring how people sort through the information available in a busy environment, we are interested particularly in how people sort out information about other people. So, to go back to the cocktail party phenomenon, we are interested in what kind of things people can find out about other individuals by picking out a conversation in a noisy environment.

THE DICHOTIC LISTENING TASK

In order to simulate the cocktail party phenomenon, we would like you to listen to two sets of words that are recorded on different channels of this stereophonic tape. You will hear a male voice in one ear and a female voice in the other. During this particular session, we want you to repeat what you hear spoken by the male voice in your LEFT/RIGHT EAR as it is spoken. This is somewhat difficult, but as long as you ignore what is spoken by the female voice, you should be able to do this. This task is called shadowing.

There is one other thing we would like to to do. While you are shadowing the male voice you will periodically see a picture appear on the computer screen in front of you (show). When you see this picture, I'd like you to press this button (show) as fast as you can. However, I would like you to consider the shadowing of the words as more important than pressing the button to the picture. Therefore, when the picture appears, push the button but try to not let if affect your shadowing of the words. The idea behind this responding to the picture is for it to simulate an interruption you might get while trying to follow another conversation.

First, we'll give you a chance to practice this task. You'll hear a warning "beep" followed by the words. After you repeat 10 words, you get a brief rest and then another warning "beep" and more words. While you are practicing these words you will see the picture appear on the screen and have to press the button. We'll practice until you're comfortable with shadowing. The trick with this task is to repeat the male voice as soon as you hear it. Please speak into the microphone on the table.

Do you have any questions about what you're supposed to do?? Okay, let me put these headphones on you now. Now please position yourself in front of the screen.

PRACTICE

(1) Make sure headphones are on (WITH THE MALE VOICE COMING OVER THE CORRECT EAR), adjusted, and comfortable.

(2) Turn the shadowing and **RECORDING** tape decks on.

(3) Continue practice (rewinding and re-presenting the two practice blocks) until the participant is comfortable with the task and has accurately shadowed the two practice sets at least once (4-8 repetitions of the practice items is not uncommon).

(4) Note on the probe sheet the number of repetitions of the practice items.

(5) Present two practice probes. However, if the participant is having difficulty shadowing, wait for their performance to improve before presenting a probe.

(6) If participants have difficulty getting started, the tape can be stopped temporarily and they can be given coaching statements, such as "Be sure to ignore the female voice" or "Repeat the male voice as soon as you hear it".

LIST DESCRIPTION AND TARGET MANIPULATION

At the conclusion of the practice session say:

Please take the headphones off (wait). You're doing very well. Now I want you to do some more shadowing. What we have done is make up two lists of words taken from a conversation that occurred in another experiment. In that experiment, research participants interacted with:

MEET: ONE OF OUR STUDENT ASSISTANTS WHOM YOU'LL MEET TOWARD THE END OF TODAY'S SESSION

NOT MEET: A STUDENT ASSISTANT WHO'S NOW AT UBC.

Later they had to describe this person to a group of fellow participants. We have taken the content of one conversation about this student assistant and formed two lists of words. One list has been recorded in a male voice while the other list has been recorded in a female voice. These lists contain not only words pertaining to this student assistant but also words from other things the group talked about, like their schoolwork for example. For this session, I would like you to shadow the words that are in the male voice that will continue to come over your LEFT/RIGHT ear.

The task will be the same as before, except that you will be repeating different words and there will be 15 instead of 10 words between the rests. Remember to ignore the female voice and repeat the male voice as soon as you hear it. Also, remember to press the button when you see the picture on the screen but consider the shadowing as more important. You should have no difficulty. Remember to speak into the microphone.

MEET: LATER IN THIS SESSION YOU'LL GET A CHANCE TO WORK WITH THE STUDENT ASSISTANT THAT IS DESCRIBED IN THESE LISTS.

NOT MEET: SOME PEOPLE WONDER ABOUT THE POSSIBILITY OF MEETING THE PERSON THEY'RE HEARING DESCRIBED ON THE TAPE. SINCE THIS STUDENT ASSISTANT IS NOW STUDYING AT ANOTHER UNIVERSITY, THIS IS NOT POSSIBLE HERE.

Are you ready to begin again?

FIRST BLOCK AND ATTRIBUTIONS

(1) Make sure headphones are on (WITH THE MALE VOICE COMING OVER THE CORRECT EAR), adjusted, and comfortable.

(2) Turn the shadowing and RECORDING tape decks on.

(3) Present probe stimuli as per random order and check them off as presented.

(4) Continue task until conclusion of the first main block (2 item sets).

(5) At this point, stop both the shadowing and recording tape decks and say:

Before we continue the shadowing task, I'd like you complete a short questionnaire. This questionnaire asks you about your impression of the student assistant that was described in the conversation the words on the tape are taken from. The idea here is to get your "first impressions" of the person the conversation is about. You may or may not feel that you know enough about the person from this tape to make any judgments, but please do your best.

There are no right or wrong answers to these items. We are interested solely in your first impressions. So, please don't spend too much time on any one item. Of course, you answers are confidential. When you are finished, we will finish the shadowing task.

(6) Give the participant the questionnaire (and a pencil)

REMAINING SHADOWING AND RECOGNITION TEST

(1) Make sure headphones are on (WITH THE MALE VOICE COMING OVER THE CORRECT EAR), adjusted, and comfortable.

(2) Turn the shadowing and RECORDING tape decks on.

(3) Present probe stimuli as per random order and check them off as presented.

(4) Continue task until conclusion of the remaining two blocks (4 item sets).

(5) At this point, stop both the shadowing and recording tape decks and say:

Now, I would like you to do just one more thing. This booklet (give them the recognition test booklet) contains a series of words, some of which were spoken by the female voice and some that were not on the tape at all. It may sound kind of odd to you, but I would like you to look at each word and assess whether you heard that word spoken by the FEMALE voice. In other words, did you hear any of the words that you were trying to ignore. Each word has a rating scale for you to indicate how confident you are that you did or did not hear the word. Please fill this out now.

CONCLUSION OF SESSION

When the participant has completed the recognition test:

(1) Collect the test.

(2) Conduct a suspiciousness interview.

(3) Fully debrief.

(4) Thank and dismiss.

(5) Have another cup of coffee.

AFTER THE PARTICIPANT LEAVES

(1) Note tape locations for shadowing performance.

(2) Note suspiciousness.

(3) Catalog data disk and assign a subject number.

(4) Store RT data with subject number, e.g.:

BSAVE S014,A$6000,L$100

(5) Make any notes.